

State of Transportation in Alameda County

2008-2009

Performance Report

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY







Table of Contents

Executive Summary

Alameda County Congestion Management Agency	ES-iii
Context and Organization of the Performance Report	ES-iv
Transportation Modes and Performance Measures	ES-v

1—INTRODUCTION

Purpose and Organization	3
Alameda County Commuters.....	3
Transportation Modes	4
Performance Measures	5

2—ROADWAYS

Overview	9
Measuring Roadway Performance	
Duration and Amount of Congestion	9
Average Speed	14
Travel Time	16
Road Maintenance	17
Accidents	18

3—TRANSIT

Overview	21
Rail Operators	22
Bus Operators	25
Ferry Operators	28
Measuring Transit Performance	
Ridership	30
Service Coordination	32
Vehicle Maintenance	35
Routing	36
Frequency	37



4—BICYCLE PLAN IMPLEMENTATION

Overview	41
Measuring Progress toward the Plan	
Completed High Priority Projects	41
Bicycle Counts	41
Bicycle Collisions with Motor Vehicles	42

5—PEDESTRIAN PLAN IMPLEMENTATION

Overview	45
Measuring Progress toward the Plan	
Completed Projects	45
Pedestrian Counts	46
Pedestrian Collisions with Motor Vehicles	46

TABLES

ES.1 Performance of Alameda County Transportation System	ES-xi
1 Top 10 Congested Corridors in Alameda County	13
2 Average Speeds in the Morning Commute	15
3 Travel Times Between Destinations During the Afternoon Commute	16
4 Rating of Pavement Condition	17
5 Alameda County Transit Ridership	31
6 Transit Service to Passengers within Alameda County	36

FIGURES

I-1 How Alameda County Workers Commute	3
1 Congestion on Freeways (Level of Service)	10
2 Congestion on Arterials (Level of Service)	11
3 Vehicle Hour of Delay on Freeways	11
4 Average Vehicle Speed	14
5 Transit Service Coordination	33
6 Bus Service Frequency	38



APPENDICES

A—Roadways

A-1 MTS and CMP-Designated Streets and Highway System	A-3
A-2 Level of Service Definitions	A-4
A-3 Top 10 Congested Locations in Alameda County	A-5
A-4 Pavement Condition by Jurisdiction within Alameda County	A6
A-5 Alameda County Roadway Conditions	A-7
A-6 State Roadway Facilities Needing Rehabilitation	A-8
A-7 Local Streets and Roads Funding Shortfall	A-9
A-8 Accidents on Alameda County Freeways	A-10

B—Transit

B-1 MTS Transit System	B-3
B-2 Annual Ridership Change	B-4
B-3 Passenger Boardings per Revenue Vehicle Mile	B-4
B-4 Passenger Boardings per Revenue Vehicle Hour	B-4
B-5 Weekday Passenger Boardings	B-5
B-6 Miles between Mechanical Road Calls	B-5
B-7 Mean Time between Service Delays	B-5
B-8 Transit Frequency	B-6
B-9 Lifeline Transportation Funded Projects	B-8

C Bicycle

C-1 Progress of High Priority Bicycle Projects	C-2
C-2 Progress of Bicycle Vision Network Construction Progress	C-4
C-3 Bicycle Counts	C-6
C-4 Bicycle Collisions with Motor Vehicles	C-7

D Pedestrian

D-1 Pedestrian Counts	D-3
D-2 Pedestrian Collisions with Motor Vehicles	D-3





Executive Summary





ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

The Alameda County Congestion Management Agency (CMA) was created in 1991, subsequent to the passage of Proposition 111, in which California voters recognized the need to address growing traffic congestion throughout the state. Proposition 111 increased statewide fuel tax to fund transportation projects and programs associated with tremendous growth in jobs and population in California. This proposition also required urban counties, such as Alameda County, to designate an agency to coordinate transportation planning, funding and other activities aimed at managing traffic congestion and improving air quality. The CMA was created through a joint powers agreement with Alameda County, its 14 cities and local transit operators to fulfill this role and responsibility.

The CMA's goals, duties and composition enable local governments to address the complex problem of traffic congestion. To help guide and improve Alameda County's transportation system, the CMA has the following responsibilities:

- Developing **planning** documents that guide transportation development and funding decisions;
- **Programming** the funds to agencies and jurisdictions for transportation improvements; and
- **Implementing** the projects and programs set forth in the planning and programming documents.



CONTEXT AND ORGANIZATION OF THE PERFORMANCE REPORT

The CMA develops transportation policies, programs and projects for Alameda County through the *Countywide Transportation Plan* and the *Congestion Management Program* (CMP). The goal of these documents is to reduce traffic congestion and improve mobility and air quality. The CMA tracks progress toward the CMA's goals through two documents: the annual *State of Transportation—Performance Report* and the biennial *Level of Service Monitoring Report*.

The ***Performance Report***—this document—summarizes how the transportation system is functioning in Alameda County. It also identifies transportation improvements that may be considered in developing the Capital Improvement Program for the CMP and in updating the *Countywide Transportation Plan*. This report is organized around the annual performance of roadways, transit and the bicycle network. It also discusses progress towards reaching countywide pedestrian access goals, as defined in the 2006 *Countywide Pedestrian Plan*.

For each transportation mode measured, the following agencies provided applicable data:

- **Roadways**—Caltrans, Metropolitan Transportation Commission (MTC) and CMA
- **Transit**—Alameda County's transit operators
- **Bicycle**—15 jurisdictions in Alameda County
- **Pedestrian**—ACTIA

Below are major findings about how the different transportation modes performed in Alameda County in 2008 as compared to previous years. This is followed by a table that shows the annual progress of each transportation mode based on the most recent available data (**Table ES-1**). The data are categorized by performance measures identified in the CMP. For more detailed information and clarification, please refer to the complete report.



TRANSPORTATION MODES AND PERFORMANCE MEASURES

Roadways

A variety of methods are used to measure the performance of roadways in Alameda County, including:

- **Duration and Amount of Congestion**—How much traffic congestion is found on county freeways and arterial roadways?
- **Average Speeds**—How fast or slow are motorists traveling?
- **Travel Times**—How long does it take to travel from one location to another?
- **Road Maintenance**—What is the quality of roadway pavement throughout the county?
- **Accidents**—Where are accidents occurring in the county?

The Performance Report covers Fiscal Year 2008-2009. Since that time, the state budget has resulted in further reductions in transportation funds, with even less funding going to roadway improvements. The Performance Report, therefore, does not show the full effect of state budget cuts on the state of Alameda County's transportation system to date. Overall, congestion has decreased in the past year, yet Alameda County still has some of the most congested roadways in the Bay Area. The decrease in congestion may be due to the downturn in the economy. However, when the economy rebounds, with the current trend for State budget cuts to transportation, it will be difficult for the County to provide necessary roadway improvements.

■ Duration and Amount of Congestion

Prepared biennially (during even-numbered years), the CMP requires that Level of Service (LOS) standards be established and monitored on the CMP-designated roadway system. (See Appendix A-1 for the CMP-designated roadway system.) Objectives of this monitoring effort are to:

- Determine the existing average travel speeds and LOS;
- Identify roadway segments in the county that are operating at LOS F (severely congested); and
- Identify long-term trends in traffic congestion on the CMP network.

The CMP roadways were most recently monitored during spring 2008. LOS is measured from A to F, with A representing no congestion and F representing the most congestion (see Appendix A-2 for LOS definitions). Overall, findings indicate congestion was reduced between 2006 and 2008. This is likely due to the economic downturn and high price of gasoline. Below are highlights from the 2008 LOS Monitoring Report as compared to 2006 findings:

- Speeds on freeways generally improved while arterials remained relatively stable.



- The percentage of uncongested freeways—those performing at LOS A, B or C—increased from 55 percent to 66 percent in 2008.
- 2008 showed the highest rate of freeways performing at LOS A since 2000.
- The percentage of moderately congested freeways (those performing at LOS D and E) decreased from 33 to 23 percent.
- The percentage of freeways performing at LOS F dropped slightly from 12 to 11 percent in 2008.

In addition to LOS analysis, MTC has been collecting information since 2004 on how much time travelers are delayed due to congestion on freeways in Alameda County and the Bay Area. Caltrans collected this information prior to 2004. Data is collected to identify where and when congestion occurs, as well as how long it lasts. (for Alameda County's Top 10 most congested corridors.) MTC's 2008 congestion data shows a 17 percent reduction over the past year, returning to its 2006 levels. Below are general findings from MTC's data:

- Five Alameda County freeways are among the top ten most congested locations in the Bay Area: I-80 westbound in mornings and eastbound in afternoons; I-580 eastbound in afternoons and westbound in mornings; and SR-92 eastbound in afternoons.
- Morning commutes on westbound I-80 continues to be the most congested corridor in the Bay Area Region.
- Four segments of I-80 occupy spots on the Top 10 list for Alameda County.
- Three segments of I-580 occupy spots on the Top 10 list.
- Westbound I-580, Crow Canyon Road to I-580/I-238 off-ramp in the morning made the list for the first time, rising from 14th in 2007 to 7th in 2008.
- The largest decrease in the duration of congestion was on eastbound I-80, from east of Sterling Street to Powell Street in Emeryville, for the afternoon peak period. This segment was congested for two hours and 30 minutes less than it was in 2008.
- Three roadway segments showed increased congestion in 2008 compared to 2007: Westbound I-80 from Powell Street to the Bay Bridge; eastbound SR-92; and eastbound SR-24.

■ Average Speeds

Average speed is the average vehicular travel speed over specified roadway segments during the peak period. Over the last 10 years, travel time during the afternoon peak, as measured by speed, remained relatively stable. Travel time during the morning peak has steadily increased since 2000.

Between 2006 and 2008, the travel time surveys showed a 3.2 mile per hour (mph) increase in average speeds on the freeway system and a 1.6 mile per hour increase in speeds on the arterials during the afternoon peak period. The morning peak period



experienced an increase of 2.4 mph on freeways. The few freeway corridors that experienced degradation in service levels were mostly due to construction activity occurring in the county.

■ Travel Times

Since 1996, the CMA has compared travel times for automobile and transit between 10 locations within Alameda County. Travel times for both modes improved since 2006 monitoring. In general, automobile travel time revealed greater improvement than transit times.

■ Road Maintenance

MTC monitors the quality of pavement on local streets, throughout the county. They rank all roadway types between excellent and poor. They also weight the average Pavement Condition Index (PCI) for the general pavement condition in the county, as well as for each jurisdiction. PCI is rated from 1 to 100, with 100 representing new roads. In 2008, approximately 79 percent of all the roadways in Alameda County were reported to be in fair to excellent condition. Pavement in poor to very poor condition represented 21 percent of the county's roadways, about a six percent increase from the previous year. Overall, the average PCI on Alameda County roadways for 2008-2009 was 66, approximately the same as reported last year. However, the average Alameda County PCI represents pavement conditions throughout 15 jurisdictions. This average covered a range from 56 to 79. Appendix A in the Performance Report shows PCI by jurisdiction.

For State facilities, road quality is measured by the number of lane miles needing rehabilitation. Information for the majority of state routes was not available for 2008. For the state roadways for which information is available, the 2008 survey showed that 84 lane-miles were in need of rehabilitation. The freeway with the greatest improvement shown in 2008 is I-580. See Appendix A-4 for PCI by jurisdiction.

■ Local Streets and Roads Shortfall

Alameda County has a \$3.7 billion shortfall for annual local streets and roads funding over the next 25 years, or through 2035. This represents 20 percent of the entire shortfall in the nine-county Bay Area Region.

■ Accidents

Although accident rates on Alameda County freeways have generally declined over the past year, accidents along I-238 increased almost eight percent. Ongoing construction (widening) along the segment may have contributed to this increase. Of all the freeways, SR-84 had the largest reduction of accidents (30 percent reduction since 2007). I-680 and I-580 also had relatively large reductions in accidents at 25 percent and 24 percent, respectively.



Transit

A variety of methods are used to measure the level of transit use in Alameda County, including:

- **Ridership**—How many people used transit?
- **Service Coordination**—How well are services, provided by different operators, being coordinated among destinations?
- **Vehicle Maintenance**—How often and to what extent do vehicles need repair? How does vehicle maintenance affect travel?
- **Routing**—How much transit service is provided?
- **Frequency**—How often is transit available?

Overall, transit ridership has decreased on average and frequency of services (how often trains and buses run) has been declining. This can be attributed to the downturn in the economy combined with reductions to transit in the State budget. Overall, it can be expected that as the economy begins to rebound, and if the State budget continues to result in cuts in transportation, Alameda County will not be able to keep pace with needed transit investments and improvements.

■ Ridership

Overall, transit ridership has declined over two percent since 2007. AC Transit, BART, Livermore-Amador Valley Transportation Agency (LAVTA) and Alameda Harbor Bay Ferry maintained fairly level ridership numbers compared to the previous year. Union City Transit and ACE (Altamont Commuter Express) experienced increased ridership, while Alameda/Oakland Ferry experienced a decrease in ridership.

■ Service Coordination

Alameda County continues to provide multiple locations where riders can connect between various transit providers. Such coordination serves a number of transportation terminals during peak commute periods, excluding school breaks. To date, the greatest numbers of transfer opportunities are found along the BART lines. In addition, Hayward Greyhound, AC Transit and LAVTA continue to make strides to expand connectivity.

■ Vehicle Maintenance

Bus and rail operators use different indicators to manage vehicle maintenance: bus operators report on Miles between Mechanical Road Calls; and rail operators report on the Mean Time between Failures. Improvements in vehicle maintenance are generally attributed to aggressive maintenance programs and operational improvements. Declines in maintenance are due to aging fleets.



In Alameda County, bus operators include AC Transit, LAVTA and Union City Transit. During FY 2008-2009:

- AC Transit reported a stable amount of miles between road calls, compared to the previous year;
- LAVTA showed nearly 20 percent increase in miles between road calls; and
- Union City Transit reported a 30 percent decrease of miles between road calls.

Rail operators include BART and ACE:

- BART reduced the mean time between service delays by 11 percent since the previous year, beginning to reverse a five-year trend of increased service delays; and
- ACE showed a 17 percent reduction in mean time between service delays in 2008.

■ Routing

Routing measures how many passengers use transit. Since FY 2002-2003, transit operators in the county have provided more frequent headways, more routes and more route miles to more people. In general, although service has varied year to year, more transit service is being provided and more people are being served.

Compared to last year, transit service: covered slightly more directional route miles (two percent) and provided slightly less frequent service and fewer routes (just over two percent). Also, the number of passengers riding transit decreased about two percent.

■ Frequency

Frequency is measured by how often transit service is provided on each route. For example: BART and bus service are typically measured by the number of minutes between vehicles; and Capitol Corridor and ACE is measured by the number of train lines provided throughout the day. Frequency of transit service has remained fairly stable with the exception of service changes for Union City and LAVTA towards the end of Fiscal Year 2008-09.



Bicycle Network

The Performance Report measures progress towards implementing the Countywide Bicycle Plan (CMA Board adopted in 2001, CMA and ACTIA Boards adopted an amended Plan in 2006). Three methods are used to measure progress toward meeting the Plan's goals:

- Completed High Priority Projects
- Bicycle Counts
- Bicycle Collisions with Motor Vehicles

In FY 2008-2009, local jurisdictions reported progress on 12 of the 16 High Priority projects. Progress includes completing plans, conducting environmental studies, maintenance and engineering and securing funding, which brings them closer to being constructed when funding becomes available. This year, information was included regarding bicycle counts and collisions. Both the number of bicyclists on the road and the number of collisions have shown increases over the past five years in Alameda County. From the data, it is not possible to determine why the number of collisions has increased but one explanation could be because there are more bicyclists on the roadway. Both measures are included by jurisdiction in Appendix C.

■ Completed High Priority Projects

Of the Plan's 549-mile Vision Network, 233 miles have been constructed, or about 42 percent of the Vision network. The Plan includes a list of 28 miles of High Priority projects, or projects expected to be completed within four years of adoption of the Bike Plan update (see Appendix C-1). In FY 2008-2009, local jurisdictions reported progress on 12 of the 16 High Priority projects. Progress includes completing plans, conducting environmental studies, maintenance and engineering and securing funding.

■ Bicycle Counts

Since 2002, local jurisdictions have monitored the number of bicyclists traveling through 12 major intersections across the county (as part of CMA's LOS Monitoring Report). Additionally, MTC has conducted bicycle counts at three additional locations since 2002 and UC Berkeley initiated counts in 2009 in the same three locations. Of the 15 intersections monitored, 12 showed an increase in use and three showed a decrease in the past year. Since 2002, the most active bicycling location is the Milvia/Hearst intersection in Berkeley, while bicycling at the Fremont location has steadily declined. The number of people bicycling likely increased in 2008 due to record high gasoline prices.

■ Bicycle Collisions with Motor Vehicles

In 2008, motor vehicle-involved bicyclist collisions resulting in injuries and fatalities increased by 26 percent, from 534 to 673 collisions since 2007. From the data, it is not possible to determine why the number of collisions has increased but one explanation could be because there are more bicyclists on the roadway.



Pedestrian Access

The CMA Board and ACTIA adopted the first Countywide Strategic Pedestrian Plan in October 2006. The Pedestrian Plan identifies and prioritizes pedestrian improvements and programs to increase walking and improve safety on a countywide level. Performance measures to monitor progress toward the Plan's goals and objectives are being developed, and may include:

- Completed Projects
- Pedestrian Counts
- Pedestrian Collisions with Motor Vehicles

■ Completed Projects

Funding for capital projects in the Pedestrian Plan are focused in areas of countywide significance, defined as "places that serve pedestrians traveling to and from a variety of locations through Alameda County and beyond." Three targeted areas and corresponding capital projects and programs include providing access to:

- Transit
- Activity Centers
- Inter-jurisdictional Trails

Four projects of countywide significance completed in FY 2008-2009, include:

- City of Alameda: Atlantic/Webster Streets Intersection Improvements;
- Hayward: San Francisco Bay Trail Eden Landing;
- San Leandro: San Francisco Bay Trail Oakland/San Leandro Connector; and
- Oakland: San Francisco Bay Trail Tidewater Segment.

■ Pedestrian Counts

As shown in Appendix D-1 the UC Berkeley Traffic Safety Center in 2009 and MTC in 2002 collected data to measure pedestrian mobility trends. Pedestrians were counted in the weekday afternoons at three intersections in Berkeley, Dublin and San Leandro. In comparing the two data sources by year, two locations (Dublin and San Leandro) showed an increase, while Berkeley counts remained relatively stable. Additional research on pedestrian mobility is underway.

■ Pedestrian Collisions with Motor Vehicles

In 2008, the reported countywide motor-vehicle-involved pedestrian collisions, resulting in injuries and fatalities, increased by nearly 4 percent, to 682 pedestrians since 2004 (see Appendix D-2). The rate of collisions has remained steady with more people walking.

**Table ES.1—Performance of Alameda County Transportation System****ROADWAYS**

PERFORMANCE MEASURE	Congestion (Level of Service)
OBJECTIVE OF CMP	Mobility / Air Quality
2008-2009 RESULTS	Freeways: Uncongested (LOS A, B, C): increased by 11 percent; Moderately congested (LOS D and E): decreased by 10 percent; Severely congested LOS F): decreased by one percent Arterials: Uncongested increased three percent; moderately congested decreased four percent; and severely congested remained the same.
OBSERVATION	From 2006 to 2008, freeways improved and arterials remained steady.

PERFORMANCE MEASURE	Average Speed
OBJECTIVE OF CMP	Mobility / Air Quality / Land Use
2008-2009 RESULTS	Freeways: 51 mph for the afternoon peak Freeways: 52 for the morning peak Arterials: 26 mph for the afternoon peak
OBSERVATION	Average speeds increased slightly (1.6 to 3.2 miles per hour) for arterials and freeways.

PERFORMANCE MEASURE	Travel Time (Origin and Destination)
OBJECTIVE OF CMP	Mobility / Air Quality / Land Use
2008-2009 RESULTS	In general, transit trips continue to take 2 to 5.5 times longer than auto for the 10 travel location pairs studied. Consistently, Fremont-Pleasanton has the highest transit travel times, which are over 5.5 times longer than auto.
OBSERVATION	Overall, auto travel time has reduced and transit times have increased since 2006. Most transit delay is associated with transfer between lines.



PERFORMANCE MEASURE	Congestion (Vehicle Hours of Delay)
OBJECTIVE OF CMP	Air Quality / Economic
2008-2009 RESULTS	<p>Congestion decreased on most of the top 10 corridors in 2008, with 53,000 VHD in 2008, which is down from 63,900 VHD in 2007, a decrease of 17 percent.</p> <p>Congestion on eastbound I-80 across the bridge in the afternoon peak decreased seven percent compared with 2007.</p> <p>Congestion on EB I-580 in the afternoon decreased by 29 percent compared to 2007</p>
OBSERVATION	The congestion reduced along most corridors in the county likely due to the economic downturn.

PERFORMANCE MEASURE	Road Maintenance (PCI)
OBJECTIVE OF CMP	Economic
2008-2009 RESULTS	<p>Excellent: 10 percent</p> <p>Very Good: 23 percent</p> <p>Good: 23 percent</p> <p>Fair: 23 percent</p> <p>Poor: 15 percent</p> <p>Very Poor: six percent</p>
OBSERVATION	Percentage of roads reported to be in good or satisfactory condition was stable (reduced by one percent). This is an average among 15 jurisdictions.

PERFORMANCE MEASURE	Accidents
OBJECTIVE OF CMP	Mobility / Air Quality / Economic
2008-2009 RESULTS	<p>The following changes in total number of accidents occurred since 2007:</p> <p>I-680 had a 25 percent reduction.</p> <p>I-580 had a 24 percent reduction.</p> <p>SR-84 had a 30 percent reduction.</p> <p>I-238 had an eight percent increase.</p>
OBSERVATION	<p>Accident rates generally reduced in 2008, with the exception of I-238.</p> <p>Reductions may have been influenced by lessened congestion associated with the economic downturn.</p>



TRANSIT

PERFORMANCE MEASURE	Ridership
OBJECTIVE OF CMP	Air Quality / Economic / Land Use
2008-2009 RESULTS	Transit ridership in terms of total annual passenger boardings decreased by 2.3 percent in 2008 compared to 2007.
OBSERVATION	Likely due to the economic downturn.

PERFORMANCE MEASURE	Service Coordination
OBJECTIVE OF CMP	Mobility / Air Quality
2008-2009 RESULTS	Transfer facilities are located at BART, AMTRAK, ACE, Dublin and Livermore Transit Centers, two malls, Greyhound and ferry terminals
OBSERVATION	BART offers the greatest number of transfer opportunities.

PERFORMANCE MEASURE	Vehicle Maintenance
OBJECTIVE OF CMP	Air Quality
2008-2009 RESULTS	Bus Service: Miles between mechanical road calls reduced for Union City Transit, increased for LAVTA, and stayed stable for AC Transit. Rail: Mean time between service delays reduced by 11 percent for BART, beginning to reverse a five-year upward trend, and reduced by 17 percent for ACE.
OBSERVATION	Improvements in transit vehicle maintenance can be attributed to aggressive maintenance programs and operational improvements. Decreases in maintenance are attributed to aging fleets.



TRANSIT

PERFORMANCE MEASURE	Routing
OBJECTIVE OF CMP	Mobility / Air Quality / Land Use
2008-2009 RESULTS	Transit service coverage and passenger boardings both reduced by two percent.
OBSERVATION	Reduction in transit service coverage and passenger boardings parallel the downturn in the economy.

PERFORMANCE MEASURE	Frequency
OBJECTIVE OF CMP	Mobility / Air Quality / Land Use
2008-2009 RESULTS	LAVTA cut fixed route service 30 percent the end of FY 2008-2009; Union City Transit terminated some of the Sunday service.
OBSERVATION	Reductions in transit frequency in 2008 show a response to the economic downturn, combined with a response to state budget cuts.

BICYCLE

PERFORMANCE MEASURE	Countywide Bike Plan
OBJECTIVE OF CMP	Mobility / Air Quality
2008-2009 RESULTS	Twelve High Priority projects showed progress in environmental, design and funding in 2008.
OBSERVATION	Bicycle facilities are progressing.





CHAPTER ONE

INTRODUCTION





INTRODUCTION

PURPOSE AND ORGANIZATION

Each year, the Alameda County Congestion Management Agency (CMA) prepares the State of Transportation in Alameda County, commonly known as the Performance Report. This report:

- Summarizes how the transportation system is functioning in Alameda County;
- Identifies needed transportation improvements for the Congestion Management Plan (CMP) Capital Improvement Program; and
- Forecasts future updates for consideration in the long-range Countywide Transportation Plan.

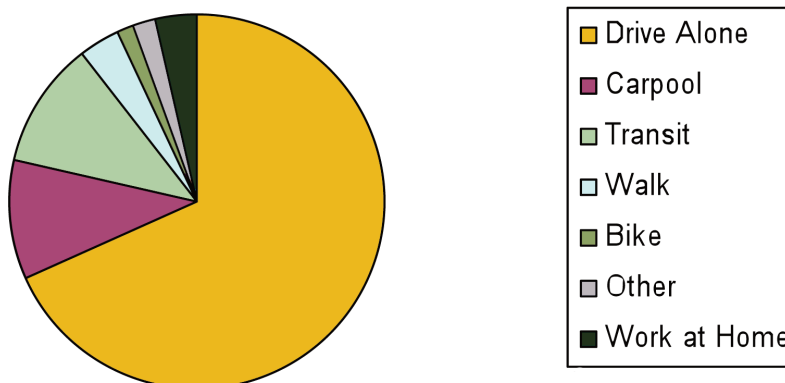
The Performance Report is organized around four transportation modes—roadways, transit, bicycle and pedestrian—and presents measures to evaluate progress to achieve the CMA's goals for each mode. It also includes supporting documentation in the appendices.

ALAMEDA COUNTY COMMUTERS

In 2008, the population in Alameda County grew one percent to 1,543,000, according to the California Department of Finance. This population represents more than a one percent increase above the 2007 population. Of the 58 counties in California, Alameda County was the 7th largest county in the State of California and the second largest in the Bay Area. In 2008, 719,100 jobs were in Alameda County, representing a 4.3 percent loss in jobs since 2007.

The majority of Alameda County workers (approximately 67 percent) drove alone to work, followed by 26 percent who traveled by alternative modes (transit, carpool, walking and bicycling) . See **Figure I-1**. Alameda County workers were slightly more inclined to use transit to arrive at their workplace compared to workers in most of the rest of the Bay Area.

Figure I-1: How Alameda County Workers Commute



Source: MTC's American Community Survey, 2007



TRANSPORTATION MODES

Roadways

Roadways focus on a portion of the transportation system defined as the CMP-designated roadway system. The CMP system is a subset of the Metropolitan Transportation System (MTS), which includes the entire CMP-designated roadway system plus major arterials, transit services, rail, maritime ports, airports and transfer points that are critical to the region's movement of people and freight (see Appendix A-1 for the MTS and CMP-designated street and highway system).

About 215 miles of state facilities and 306 miles of local arterial roadways on the MTS are in Alameda County. The CMP network, a subset of the MTS, consists of:

- 134 miles of interstate freeways
- 71 miles of conventional state routes
- 26 miles of local arterial roadways

Transit

The following three types of transit services are available in Alameda County (see Appendix B-1):

- **Rail**—Provided by the Bay Area Rapid Transit (BART); Capitol Corridor between Sacramento and San Jose; and Altamont Commuter Express (ACE) between Stockton and San Jose.
- **Bus**—Provided by Alameda County (AC) Transit, Livermore-Amador Valley Transit (LAVTA) and Union City Transit; public-private shuttle services throughout the county; and subscription bus service in East County.
- **Ferry**—Provided by the Alameda/Oakland Ferry and Alameda Harbor Bay Ferry.

Bicycling

The CMA and the Alameda County Transportation Improvement Authority (ACTIA) Boards adopted the updated Countywide Bicycle Plan in October 2006, which when completed will total 549 miles of bicycle facilities. The Plan has three levels of investment: the Vision, The Financially Constrained Network and a list of High Priority projects. As of 2009, about 229 of these miles (42 percent) have been completed with an additional 320 miles of planned (new or rehabilitated) facilities. The Plan also includes:

- 17 new traffic signals
- 27 freeway interchange improvements
- 12 new bicycle/pedestrian bridges, underpasses and overcrossings
- Improved connections to transit

The 212-mile Financially Constrained Network, a subset of the Vision, is based on bicycle facilities that can be completed with available revenues over the next 25 years.



The High Priority projects consist of 28 miles of bicycle facilities, totaling \$36 million for construction. It is based on a list of projects that can be completed within four years of Plan adoption.

Walking

Developed by ACTIA and adopted by the ACTIA and CMA Boards in October 2006, the Countywide Strategic Pedestrian Plan includes:

- A vision for a walkable county;
- Information about walking in the county;
- Priorities for countywide projects and programs;
- Estimates for the cost of completing countywide pedestrian improvements; and
- Guidance for countywide discretionary pedestrian funds.

PERFORMANCE MEASURES

Measuring the performance of each mode for the Performance Report relied primarily on available data and established data collection processes. For each mode measured, the following agencies collected applicable data:

- **Roadways**—Caltrans, Metropolitan Transportation Commission (MTC) and CMA
- **Transit**—Alameda County's transit operators
- **Bicycle**—15 jurisdictions in Alameda County
- **Pedestrian**—Under development

Below is a summary of performance measures used for the analysis.

Roadways

- **Duration and Amount of Congestion**—How much congestion is found on county freeways and arterial roadways? How long are travelers delayed due to congestion?
- **Average Speed**—How fast or slow are motorists traveling?
- **Travel Times**—How long does it take to travel from one location to another?
- **Road Maintenance**—What is the quality of roadway pavement throughout the county?
- **Accidents**—Where are accidents occurring in the county?

Transit

- **Ridership**—How many people used transit?
- **Service Coordination**—How well are services being coordinated between destinations?



- **Vehicle Maintenance**—How often and to what extent do vehicles need repair?
- **Routing**—How much transit service is provided?
- **Frequency**—How often is transit available?

Bicycle Plan Implementation

- **Completed High Priority Projects**—How many High Priority projects were constructed?
- **Bicycle Counts**—How many people traveled by bicycle?
- **Bicycle Collisions with Motor Vehicles**—How many bicyclists encounter vehicle collisions?

Pedestrian Plan Implementation

The Pedestrian Plan does not have established performance measures. The following means of tracking progress of implementing the Pedestrian Plan are under development:

- **Completed Projects**—How many improvements to pedestrian access were completed?
- **Pedestrian Counts**—How many people walk at key intersections?
- **Pedestrian Collisions with Motor Vehicles**—How many pedestrians encounter vehicle collisions?



CHAPTER TWO

ROADWAYS







OVERVIEW

For each performance measure, the following agencies collected applicable data:

- **Duration and Amount of Congestion**—CMA, in even numbered years and MTC, annually
- **Average Speed**—CMA, in even numbered years
- **Travel Times**—CMA, in even numbered years
- **Road Maintenance**—MTC, annually
- **Accidents**—Caltrans, annually

The Performance Report covers Fiscal Year 2008-2009. Since that time, the state budget has resulted in further reductions in transportation funds, with even less funding going to transit operations and roadway improvements. The overview of the Performance Report, therefore, does not show the full effect of state budget cuts on the state of Alameda County's transportation system to date. For example, bus operators, like LAVTA, have reduced their fixed route service by nearly 30 percent and BART reduced their service in the evening hours from 20 to 15 minute headways (time between trains). These changes to transit ridership and service are expected to be apparent in next year's Performance Report.

MEASURING ROADWAY PERFORMANCE

Duration and Amount of Congestion

The duration and amount of congestion in Alameda County is measured through the Level of Service (LOS) and vehicle hours of delay (VHD) analysis. The VHD analysis is followed by a list of the Top 10 most congested corridors.

Level of Service

Biennially, the CMA monitors the amount of congestion by measuring the LOS on all freeways and arterial roadways designated in the CMP-designated network. The CMA last monitored LOS in 2008. Based on travel speeds, LOS is categorized into six levels: A through F. LOS A represents no congestion and LOS F represents the most congestion (see Appendix A-2 for LOS details). As shown in **Figures 1 and 2**, the overall 2008 LOS on freeways has improved and arterials have remained steady since 2006. Highlights of 2008 LOS Monitoring Report findings include:

- The percentage of uncongested freeways—or those performing at LOS A, B and C—increased significantly, from 55 percent in 2006 to 66 percent in 2008.
- 2008 showed the highest rate of freeways performing at LOS A since 2000, which was at the peak of the dot com period. Decreased levels of congestion were likely due to the downturn in the economy combined with increased gas prices.



- The percentage of moderately congested freeways—or those performing at LOS D and E—decreased from 33 percent to 23 percent. The percentage of those performing at LOS F remained relatively stable.
- Average speeds on four freeway corridors increased notably from 2006 to 2008:
 - I-80 westbound from Central to Tollgate: Average speed increased from 27.7 mph (LOS F) in 2006 to 36.2 mph (LOS E) in 2008.
 - I-880 southbound from I-980 to Dixon Landing: Average speed increased from 37.1 mph (LOS E) to 47.6 mph (LOS D).
 - I-580 eastbound from I-80/I-580 Split to I-238: Average speed increased from 39.3 mph (LOS E) to 47.0 mph (LOS D).
 - SR-13 northbound from Mountain Boulevard to Hiller Drive: Average speeds increased from 38.8 mph (LOS E) to 51.0 mph (LOS C).
- Conversely, average speeds decreased on I-680 northbound from Scott Creek to Alcosta Boulevard from 52.9 mph (LOS C) in 2006 to 43.4 mph (LOS D) in 2008.
- Other corridors either showed modest increases or decreases in speeds—with the exception of SR-24 westbound from Fish Ranch Road to I-580, a reverse commute direction. Speeds in this corridor have remained very consistent since 2004, ranging between 58.4 and 58.8 mph.

Figure 1—LOS on Freeways (average afternoon commute)

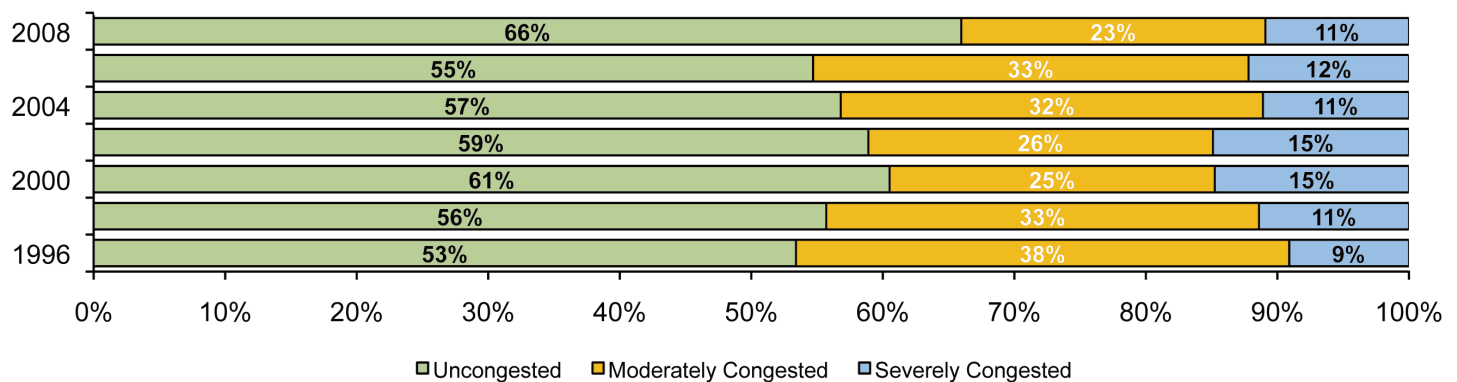
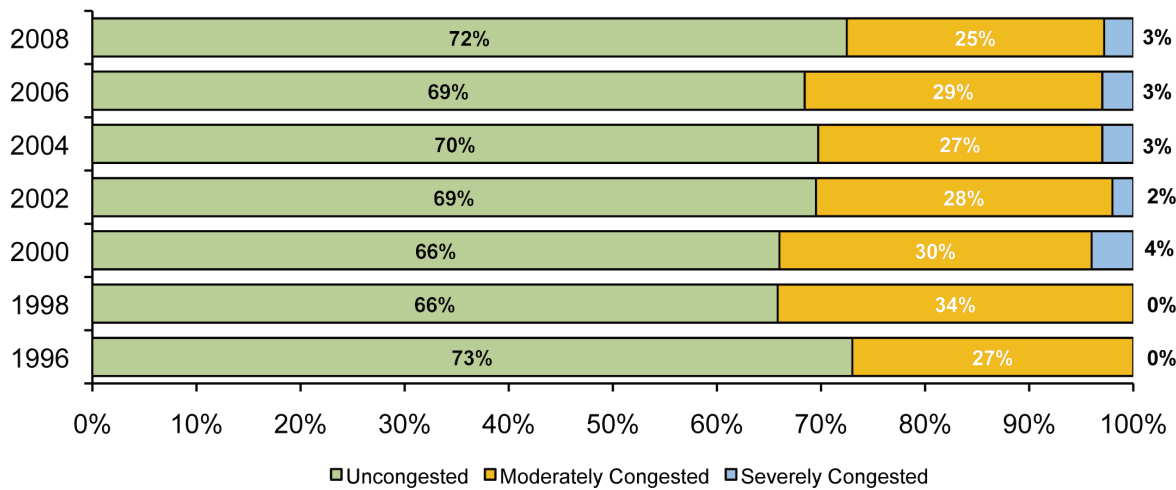


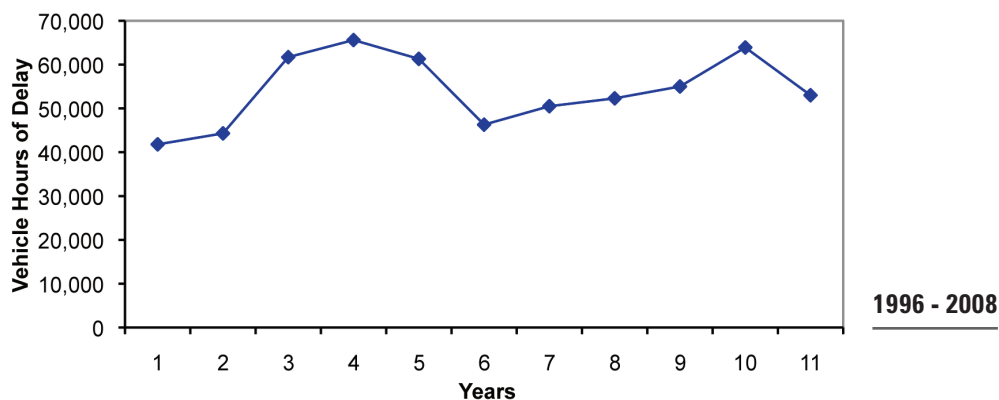

Figure 2—LOS on Arterials (average afternoon commute)


Source: Alameda County CMA LOS Monitoring Reports, 1996-2008

Vehicle Hours of Delay

Since 2004, MTC has collected information on travel time for freeways in Alameda County and the Bay Area. The data is collected to identify locations of congestion, time of day that congestion occurs and the length of congestion (duration). The number of VHD, in comparison to previous years, indicates whether congestion is increasing or decreasing.

Figure 3 identifies the VHD on all county freeway facilities between 1998 and 2008. This amount is nearly double that of the second most congested county, Santa Clara. In 2008, congestion for Alameda County decreased by 17 percent from the previous year. While, the amount of congestion in the county has increased five percent since 2003, the reduction in 2008 began to reverse this upward trend. Still, congestion in Alameda County continued to account for nearly 40 percent of the Bay Area's total congestion.

Figure 3: Vehicle Hours of Delay on Freeways


Source: MTC (2004-2008 Congestion data) and Caltrans District 4 1996-2003 Highway Congestion Monitoring Data.



Top 10 Congested Corridors

Appendix A-3 shows a map of the Top 10 most congested corridors in Alameda County. Data collected from MTC and Caltrans reveals about a 20 percent drop in overall congestion from 2007, likely reflecting the economic downturn. Key highlights include:

- Five of the top 10 congestion hot spots in the Bay Area are in Alameda County: I-80 westbound in mornings and eastbound in afternoons; I-580 eastbound in afternoons and westbound in mornings; and SR-92 eastbound in afternoons.
- Morning commutes on westbound I-80 continue to be the most congested corridor in the Bay Area Region.
- VHD eastbound I-580 in the afternoon decreased by 30 percent in 2008.
- Of the Top 10 congested corridors in Alameda County, congestion on I-80 accounts for 46 percent of delay and I-580 accounts for 33 percent of delay.
- Four segments of I-80 occupy spots on the Top 10 list for Alameda County.
- Three segments of I-580 occupy spots on the Top 10 list.
- Westbound I-580, Crow Canyon Road to I-580/I-238 off-ramp in the morning made the list for the first time, rising from 14th in 2007 to 7th in 2008.
- Westbound I-80, from Gilman to the MacArthur Maze in the afternoon also made the list for the first time, moving from 13th in 2007 to 9th in 2008.
- Of the eight roadway segments on both 2007 and 2008 Top 10 congested list, three show a decrease in the duration of congestion, two of them remained stable and three recorded an increase.
- The largest decrease in the duration of congestion was on eastbound I-80, from east of Sterling Street to Powell Street in Emeryville, for the afternoon peak period. This segment was congested for two hours and 30 minutes less than it was in 2008, a shift from six hours and 40 minutes to nearly four hours.
- Three roadway segments showed increased congestion in 2008 compared to 2007: Westbound I-80 from Powell Street to the Bay Bridge (45 minutes); eastbound SR-92 (50 minutes); and eastbound SR-24 (58 minutes).

Table 1 shows the VHD for the top 10 most congested locations for 2008, along with a comparison of how the segments ranked in recent years. Note: * Indicates portion of segment falls outside Alameda County.

**Table 1—2008 Top 10 Most Congested Corridors in Alameda County (VHD)**

2008 Rank	Location	2008 VHD	2007 Rank	2006 Rank	2005 Rank
1	Westbound I-80 Powell Street to Bay Bridge (morning)	7,800	1	1	1
2	Eastbound I-580 I-680 to N. Livermore Avenue (afternoon)	5,250	2	2	2
3	Westbound I-580 I-205 to Airway Boulevard/SR 84 (morning)	4,240	3	3	3
4	Eastbound I-80 E. of Sterling on-ramp to E. of Powell (afternoon)	3,530	6	5	5
5	Eastbound SR-92 Clawiter Road to I-880 (afternoon)	3,200	4	4	4
6	Westbound I-80 * MacArthur Maze to 5th Street, S.F. (afternoon)	3,020	8	6	6
7	Westbound I-580 Crow Canyon to I-580/I-238 off-ramp (morning)	2,530	14	21	7
8	Eastbound SR-24 I-580 to Camino Pablo (afternoon)	2,500	10	8	8
9	Westbound I-80 Gilman to MacArthur Maze (afternoon)	2,230	13	6	9
10	Northbound I-880 Decoto to Tennyson (afternoon)	1,990	7	14	10

Source: MTC, 2009

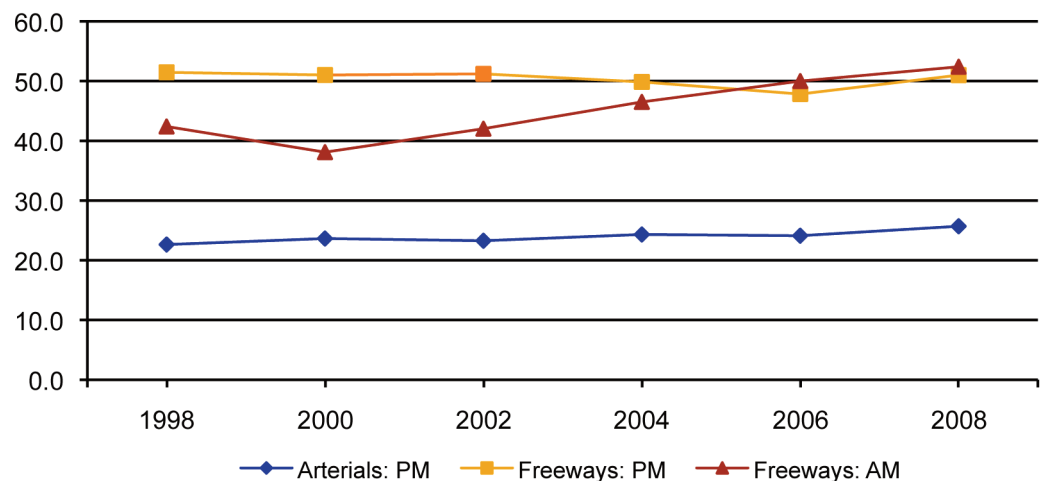


Average Speed

The average vehicular travel speed is measured over specified segments in each lane during the peak period. Although the CMA is required to collect data biennially for the afternoon peak period, the agency also collects similar data for the morning peak period. **Figure 4** indicates that over the last 10 years, average speeds on freeways during the afternoon peak remained relatively stable, while travel during the morning peak has steadily increased since 2000.

Between 2006 and 2008, surveys showed 3.2 miles per hour increase in average speeds on the freeway system to 51 miles per hour. The average speed on arterials increased 1.6 miles per hour to 52 miles per hour during the afternoon peak period. The morning peak period experienced an increase of 2.4 mph to 26 miles per hour on freeways. The freeway corridors with slower speeds were due to construction activity occurring in the county. Also, in some instances, as a result of splitting longer segments into shorter ones, consistent with the adopted 2007 CMP, some shorter segments that had been part of an average longer segment, had decreased travel times.

Figure 4: Average Vehicle Speed (in miles per hour)



Source: Alameda County CMA LOS Monitoring Reports, 1996-2008

Table 2 compares average vehicle speeds for selected segments during the morning peak. Notable observations include:

- Approximately one-half of the segments showed increases in average speed in 2008 compared to 2006. This trend is likely due to the economic downturn.
- The greatest increase in average speed was on northbound I-880, from SR-262 to Dixon Landing Road, increasing almost 37 mph, from 20.3 to 57.1 miles per hour.

**Table 2—Average Speeds in the Morning Commute (in miles per hour)**

SEGMENT	2000	2002	2004	2006	2008
I-880 Southbound					
Marina to A Street	38.2	50.1	36.5	27.3	
Split into two new segments:					
Marina to 238 WB					33.9
I-238 to A Street					24.1
A Street to SR-92	15.9	21.9	40.6	32.0	29.4
SR-92 to Tennyson	31.3	425.5	48.6	38.3	30.3
Tennyson to Alvarado-Niles	28.8	46.2	49.1	43.8	38.8
SR-262 to Dixon Landing	11.4	N/A	21.4	20.3	57.1
I-880 Northbound					
Alvarado-Niles to Tennyson	32.9	31.3	33.7	24.4	26.2
Tennyson to SR-92	45.9	41.4	53.3	41.5	45.3
SR-92 to A Street	36.3	44.8	42.5	45.7	52.9
A Street to Marina	57.3	55.8	44.9	50.7	59.0
I-238 Westbound					
I-580 to I-880	18.0	22.5	20.2	15.4	
I-680 Southbound *					
Alcosta to I-580	57.7	63.0	69.0	64.3	67.4
I-580 to Bernal*	64.6	63.5	67.1	54.7	*
I-580 to Stoneridge (new)					59.1
Bernal to Niles (SR-84)*	56.8	46.2	66.0	55.6	*
Bernal to Sunol Boulevard (new)					41.3
Sunol Boulevard to SR-84 (new)					51.0
Niles to Mission*	17.6	28.2	61.0	57.7	*
Niles to Andrade					46.9
Andrade to Sheridan					55.7
Sheridan to Vargas					41.6
Vargas to SR-238					38.1
I-580 Westbound					
Portola to Tassajara*				30.8	*
Portola to SR84					29.4
SR-84 to El Charro	41.9	32.4	27.5		40.9
El Charro to Tassajara					52.8
Tassajara to I-680*	63.8	44.0	50.6	46.1	54.3*

Source: Alameda County CMA, LOS Monitoring Reports

* Routes not studied in 2008 because they were broken into smaller segments.



Travel Time

The CMA has compared travel times for automobile and transit for 10 origin/destination pairs within Alameda County since 1996. The results, shown in **Table 3**, indicate that overall both automobile and transit travel times have improved compared to 2006. Travel times were between 2 to over 5.5 times longer for transit than automobile travel. Most transit delays can be attributed to transfer between lines. Improvements in automobile travel time in nine out of the 10 pairs can be attributed to the economic downturn and record high gasoline prices.

Table 3—Travel Times for Origin/Destination Pairs (afternoon peak in minutes)

ORIGIN-DESTINATION		2000	2002	2004	2006	2008
Hayward to Newark						
Kaiser Medical Center to Thornton Ave.	Car	22	22	16	19	14
	Transit	92	79	90	86	74
Emeryville to Berkeley						
Chiron to Marin Circle	Car	26	25	28	22	22
	Transit	NA	56	53	45	70
	Bicycle	30	30	33	30	32
Hayward to Livermore						
Cal State University to Delaware Way	Car	45	49	61	61	54
	Transit	152	141	120	113	143
Oakland to San Leandro						
Downtown to Chapel Ave.	Car	29	32	41	34	27
	Transit	64	56	70	66	78
Fremont to Pleasanton		41.9	32.4	27.5		40.9
	Car	34	33	27	39	26
	Transit	122	125	146	181	145
Fremont to San Jose						
Thornton Ave./Fremont Blvd to Fujitsu	Car	55	49	30	33	27
	Transit	104	118	94	111	82
Fremont to San Jose						
Thornton Ave./Fremont Blvd to HOV Lane (Transit Service to be added when facilities in place)	Car	35	34	27	25	23
	Transit	NA	NA	NA	NA	NA
Oakland to Pleasanton						
Federal Building to Hansen and Valley Ave. in Pleasanton	Car	60	60	45	57	41
	Transit	96	70	77	75	107

**Table 3—Travel Times for Origin/Destination Pairs (afternoon peak in minutes) continued**

ORIGIN-DESTINATION		2000	2002	2004	2006	2008
Fremont to Alameda						
Washington Hospital to Searidge	Car	57	53	64	52	43
	Transit	74	70	123	102	94
Alameda to Oakland						
Naval Air Station to College Ave.	Car	17	21	22	21	22
	Transit	47	45	45	43	51

Source: Alameda County CMA, 1998-2008 LOS Monitoring Reports

Road Maintenance

MTC monitors the pavement condition of local streets by weighting the average Pavement Condition Index (PCI) for the general pavement condition within defined networks. This monitoring is conducted for the entire county and for each city within the county. Roadway types include MTS and non-MTS, including arterials, collectors and residential streets.

As shown in **Table 4**, the PCI uses a classification scale weighted between 0 and 100, with the highest rating being new pavement.

Table 4—Rating of Pavement Condition

CLASSIFICATION	PCI RANGE
Excellent Condition	90-100
Very Good Condition	75-89
Good Condition	60-74
Fair Condition	45-59
Poor Condition	25-44
Very Poor Condition	below 25

Alameda County Facilities

Approximately 79 percent of all Alameda County roadways were reported to be in fair to excellent condition in FY 2008-2009. Pavement in poor to very poor condition represented about 21 percent of the county's roadways. See Appendix A-4. MTC reported that the average PCI for Alameda County roadways for all 15 jurisdictions was 66, nearly the same as reported last year (65). This average covered a range from 56 to 79. See Appendix A-5.



State Facilities in Alameda County

Caltrans is responsible for maintaining the state highways and freeways system. Under the state system, assessment of pavement condition differs from the PCI. Since 1978, the types of ride (i.e., rough ride) and structural problems have been monitored. The combination of these two factors is the initial step in determining if a segment should be scheduled for improvement.

As required by SB 45, Caltrans has prepared a 10-year highway and freeway maintenance plan. The plan identifies roads needing rehabilitation and a schedule for completing the work. Goals are to:

- Reduce the lane mile backlog of pavement in poor condition;
- Switch from a “worst-first” to “preventive maintenance” strategy;
- Use long life pavement strategies; and
- Integrate maintenance and rehabilitation work.

The 2008 survey of state facilities needing rehabilitation in Alameda County provided information for freeways. Information for the majority of state routes was not available for 2008. The 2008 survey showed that 84 lane-miles of freeway need of rehabilitation, a 45 percent reduction from the previous year. The greatest largest reduction was on I-580. The number of lane miles in need of rehabilitation by route in Alameda County is shown in Appendix A-6.

Local Streets and Roads Shortfall

Appendix A-7 shows the annual local streets and roads funding shortfall over the next 25 years, or through 2035. It shows that Alameda County has \$3.7 billion shortfall, or 20 percent of the entire shortfall in the nine-county Bay Area Region.

Accidents

Appendix A-8 details the number of accidents on Alameda County freeways in 2008 compared to previous years. Accident rates in the county have generally reduced, with the exception of I-980 and I-238, which had percent increases of 14 and eight, respectively. The accident rate on I-238 may have been affected by ongoing construction (roadway widening). Three roadways had substantial declines in the percent of accidents: SR-84 fell 30 percent, I-680 fell 25 percent and I-580 fell 24 percent.

CHAPTER THREE

TRANSIT







OVERVIEW

As shown on the MTS Transit System (see Appendix B-1), the following transit services are available in Alameda County:

- **Rail**—Provided by the Bay Area Rapid Transit (BART); Capitol Corridor between Sacramento and San Jose; and Altamont Commuter Express (ACE) between Stockton and San Jose.
- **Bus**—Provided by Alameda County (AC) Transit, Livermore-Amador Valley Transit Agency (LAVTA) and Union City Transit; public-private shuttle services throughout the county; and subscription bus service in East County.
- **Ferry**—Provided by the Alameda/Oakland Ferry and Alameda Harbor Bay Ferry.

Furthermore, although congestion decreased and speeds increased on freeways in Alameda County overall--perhaps as a reflection of the downturn in the economy--some of our roadways, like I-80, still experience the highest congestion in the Bay Area. It can be expected that as the economy begins to rebound, and if the State budget continues to result in cuts in transportation, Alameda County will not be able to keep pace with needed transportation investments and improvements.



Rail Operators



Bay Area Rail Transit

BART provides rail transit service in Alameda, as well as Contra Costa and San Francisco and the northern portion of San Mateo County. Approximately half of the current weekday ridership involves travel between the East and West Bays.

BART Overview for FY 2008-2009

Number of stations	43 total, including 19 stations in Alameda County
Number of weekday routes	Five
Weekday headways/peak periods	Varies from 5 minutes minimum to 15 minute maximum headway
Evening service number of routes	Three
Evening service headways	15 minutes
Service hours weekdays	4:00 am to 12 am
Service hours week-ends	Saturday: 6am to 12 am, Sunday: 8 am to 12 am
Average age of a rail car	11.7 years
Average life expectancy of a car	20 to 25 years for new cars, 15 years for rehabilitated cars



Capitol Corridor

Capitol Corridor is an Intercity Rail Service managed by the Capitol Corridor Joint Powers Authority (CCJPA). It provides intercity connections between Sacramento and San Jose. For FY 2007-2008, Capitol Corridor maintained 32 weekday trains between Oakland and Sacramento. This includes 14 that connect between Oakland and San Jose. The majority of the Capitol Corridor riders travel from the Sacramento area to the Bay Area. In Alameda County, the Capitol Corridor stops at Berkeley, Emeryville (a connection to San Francisco via motor coach service), Oakland (Jack London Square and Coliseum), Hayward and Fremont.



The Capitol Corridor is supported by capital and operating funds from the State of California. The rolling stock is owned by the state as well. As part of its System Transit Transfer Program, the CCJPA provides free transit transfers for use on AC Transit East Bay buses for customers and reimburses AC Transit for each transfer used. It also sells \$10 value BART tickets for \$8 in the café cars (CCJPA pays for the difference).

Capitol Corridor Overview for 2008-2009

Number of stations	19 stations in Alameda County
Number of weekday routes	Five
Weekday headways/peak periods	Varies from 20 minutes to 2 hours and 30 minutes
Evening service number of routes	N/A
Evening service headways	N/A
Service hours weekday	4 am to 12 am
Service hours week-end	Saturday: 6 am to 12 am, Sunday: 8 am to 12 am
Average age of a rail car	N/A
Average life expectancy of a car	Unavailable



ACE Commuter Rail

ACE Commuter Rail provides service between Stockton and San Jose during the weekday morning and evening commute periods only.

ACE Overview for FY 2008-2009

Number of stations	9 stations in Alameda County
Number of weekday routes	Three
Weekday Morning headways	1 hour 5 minutes to 2 hours 50 minutes
Weekday Evening headways	1 hour to 3 hours and 30 minutes
Service hours weekday	Mornings: 4:20 a.m. and 6:40 a.m.
Service hours weekday	Evenings: 6:42 p.m. and 8:53 p.m.
Service hours weekday	Midday service: 9:30 round-trip to San Jose, with a return trip at 2:15 p.m.
Average age of a rail car	7.5 years
Average life expectancy of a car	20 years



Bus Operators

AC Transit

AC Transit operates two main types of bus service: East Bay local service and TransBay service, as well as the joint Dumbarton service with Union City and Palo Alto.

East Bay Local Service. AC Transit service covers most of Alameda County and West Contra Costa County, including supplemental school service during the school months and community-based service that provides sporadic and direct mid-day service from community centers to shopping and other services.

TransBay Service. This service operates from East Bay to the TransBay Terminal in downtown San Francisco, as well as service across the San Mateo Bridge to the Hillsdale Mall terminal in San Mateo.

Dumbarton Express Dumbarton Express offers service across the Dumbarton Bridge, between Union City and Palo Alto. This service is provided through a consortium of AC Transit, BART, SamTrans, Union City Transit and Valley Transportation Authority.



AC Transit Overview for FY 2008-2009

Number of East Bay local routes	72, including two Limited Routes
Number of Routes Offering Community Destination-Based Service	Seven
Number of Lifeline-funded routes, providing service to help meet needs of a low-income community	One
Number of Rapid and Limited Lines	Two Rapid Lines and two Limited Lines
Number of TransBay routes	
• Including their distinct derivations	28
• Service across the Bay Bridge, the San Mateo Bridge and the Dumbarton Bridge.	
Number of "All-Nighter" routes providing Transbay and East Bay service when BART is not running	Six
Number of buses in active fleet	700
Average age of fleet	6.48 years (slightly reduced from previous year)
Average life expectancy of a bus	12 to 16 years



LAVTA

LAVTA provides local four levels of service to the cities of Dublin, Livermore and Pleasanton and to the adjacent unincorporated areas of Alameda County: WHEELS dial-a-ride, an ADA-mandated demand responsive service to elderly and disabled persons in Dublin, Pleasanton and Livermore; peak period bus service to Pleasant Hill; and supplemental service during academic year for middle and high schools.

At the end of Fiscal Year 2008-2009, LAVTA implemented a nearly 30-percent overall reduction in fixed route service, with significant cutbacks on almost all of its bus lines, including: reductions in frequencies and hours of operation; discontinuation of midday service on Routes 3 and 18, and 24-hour service on the 10 line via the 810; suspension of the All Nighter Route; reduction in weekend service reductions, including discontinuation of Sunday operation on lines 8 and 12.

LAVTA Overview for FY 2008-2009

Number of active fixed routes buses	60, including a pool of buses used for the express routes
Number of Lifeline routes	One
Number of paratransit vehicles	21
Service hours	24 hours a day until the end of the fiscal year (see above)
Headways during peak periods	15 to 45 minutes, depending on the route
Average life expectancy of a bus	12 years
Average fleet age for fixed route	8.4 years



Union City Transit

Union City Transit provides fixed route and paratransit services within Union City. Currently, Union City Transit contracts with MV Transportation for operations and maintenance. Union City Transit coordinates its service with AC Transit, BART and the Dumbarton Express.



Recent changes to Union City Transit service include: discontinuation of a Sunday service shuttle pilot program to Northern Fremont; discontinuation of Sunday service for Routes 3 and 4; rerouting of Routes 3 and 4; and initiation of Sunday service for Route 1B in FY 2008-2009.

Union City Transit Overview for FY 2008-2009

Number of fixed route buses in active fleet	15
Number of paratransit vehicles	Five
Weekday service hours	4:15 a.m. to 10:35 p.m.
Saturday service hours	7:00 a.m. to 7:30 p.m.
Sunday service hours	8:00 a.m. to 6:30 p.m.
Average age of fleet	9 years
Average life expectancy of a vehicle	12 years



Ferry Operators



Alameda/Oakland Ferry

Alameda/Oakland Ferry provides service between San Francisco's Ferry Building, San Francisco's Pier 39, Alameda's Main Street terminal and Oakland's Jack London Square. The City of Alameda administers the service, which includes weekday, year-round and seasonal service. Seasonal service is offered from Alameda, Oakland and Angel Island State Park, as well as AT&T Park for Giants games.

Alameda/Oakland Ferry Overview for FY 2008-2009

Number of routes	11 commute and four midday departures
Headways during peak period	1 hour and 5 minutes
Service hours	Weekday service: 6:00 AM to 9:25 PM arrival at SF's Pier 41. Weekend service: Times vary seasonally.
Average age of a ferry	18 years
Average life expectancy of a ferry	20 years



Alameda Harbor Bay Ferry

Alameda Harbor Bay Ferry provides service between Alameda's Bay Farm Island and the San Francisco Ferry Building. Weekday service consists of three morning and four evening commute period trips.



Alameda/Harbor Bay Ferry Overview for FY 2008-2009

Number of routes	Three morning and four evening commute period trips.
Headways during peak period	1 hour
Service hours	Weekday service: 6:30 to 8:00 pm arrival at Alameda Harbor Bay.
	No midday service, no weekend service.
Average age of a ferry	16 years
Average life expectancy of a ferry	20 years



MEASURING TRANSIT PERFORMANCE

A variety of methods are used to measure the performance of transit in Alameda County, including:

- Ridership—How many people used transit?
- Service Coordination—How well are services being coordinated between destinations?
- Vehicle Maintenance—How often and to what extent do vehicles need repair? And how does it affect travel?
- Routing—What are the best routes to serve the most travelers?
- Frequency—How often is transit available?

Ridership

Transit ridership is measured by passenger boardings related to:

- Annual Ridership
- Ridership per Revenue Vehicle Mile
- Ridership per Revenue Vehicle Hour
- Weekdays Ridership

Annual Ridership

As shown in **Table 5**, ridership in Alameda County declined approximately two percent in 2008. AC Transit, BART, LAVTA and Alameda Harbor Bay Ferry maintained fairly stable ridership levels compared to the previous year. During the past year, ACE and Union City Transit experienced increased number of riders and Alameda Oakland Ferry experienced a decrease in ridership. Appendix B-2 shows annual changes in ridership in Alameda County by transit operator.

**Table 5: Alameda County Transit Ridership**

Annual Passenger Boardings (in 000's)

OPERATOR	2004/05	2005/06	2006/07	2007/08	2008/09
AC Transit ¹	56,680	58,927	58,934	57,370	57,370
BART ²	32,946	34,939	36,297	37,829	37,809
LAVTA	1,938	2,037	2,136	2,234	2,195
Union City	381	398	421	439	464
Alameda-Oakland Ferry	382	426	443	459	400
Alameda Harbor Ferry	84	132	134	145	143
ACE ³	641	642	228	226	265
County Total	93,052	97,501	98,593	98,702	96,450

Source: Data provided by the transit operators by special request.

Notes:

1. AC Transit data adjusted to deduct Contra Costa County. Based on hours of operating service in Alameda County and population served by AC Transit. Total numbers were systemwide numbers reduced by 12 percent to represent Alameda County. AC Transit calculations for 2008/2009 changed from previous years due to introduction of new transit fare method (TransLink).
2. BART data adjusted to represent Alameda County passenger boardings by annualizing the Average Weekday Passenger Boardings in Alameda County. An annualization factor of 290 was used for 2004-2005, 298 for FY 2006 and 300 for FY 2007 and 2008.
3. ACE method of calculations for FY 2006-2007 changed from previous years.



Ridership per Revenue Vehicle Mile

Passenger Boardings per Revenue Mile, as shown in Appendix B-3, is the number of passengers divided by the number of miles each transit vehicle is in revenue service. The measure excludes miles traveled to and from storage facilities and other deadhead travel. According to this measure, ridership remained fairly stable in Alameda County over the past year.

Ridership per Revenue Vehicle Hour

Passenger boardings per revenue vehicle hour, as shown in Appendix B-4, is the number of passengers divided by the number of hours each transit vehicle is in revenue service, including layover time. The measure excludes hours consumed while traveling to and from storage facilities and during other deadhead travel. According to this measure, Alameda County transit ridership remained fairly stable since last year, with the exception of notable decreases on LAVTA and Alameda Oakland Ferry and significant increases on the Alameda Harbor Bay Ferry.

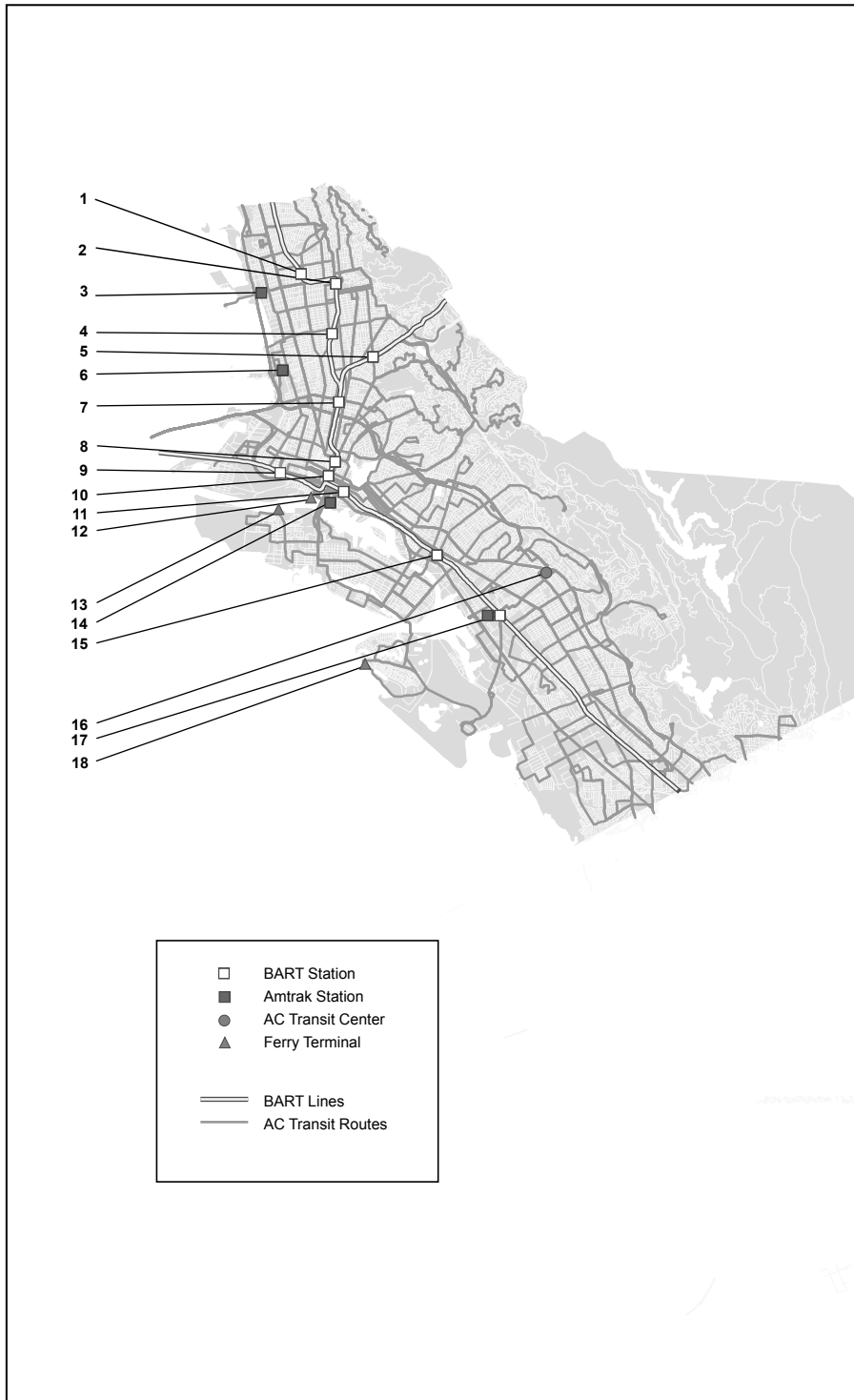
Weekday Ridership

As shown in Appendix B-5, the total number of weekday passenger boardings for AC Transit, BART and ACE has remained remarkably consistent over the past year. Also, all three operators maintained a consistent weekday ridership over recent years.

Service Coordination

Figure 5 shows the number of transit lines serving major transportation terminals in Alameda County. BART provides the greatest number of transfer opportunities, including Fremont (19 lines), Hayward (28 lines), Union City (17 lines), 12th Street (16 lines), Downtown Berkeley (18 lines) and Dublin/Pleasanton (16 lines). In addition, the Hayward Greyhound Station has 10 transfer opportunities; AC Transit has many lines connecting to Eastmont Mall and Newpark Mall; and LAVTA added a line at the Livermore Transit Center.

Since FY 2007-2008, Alameda County continues to provide multiple locations where transit riders can connect between county transit providers.

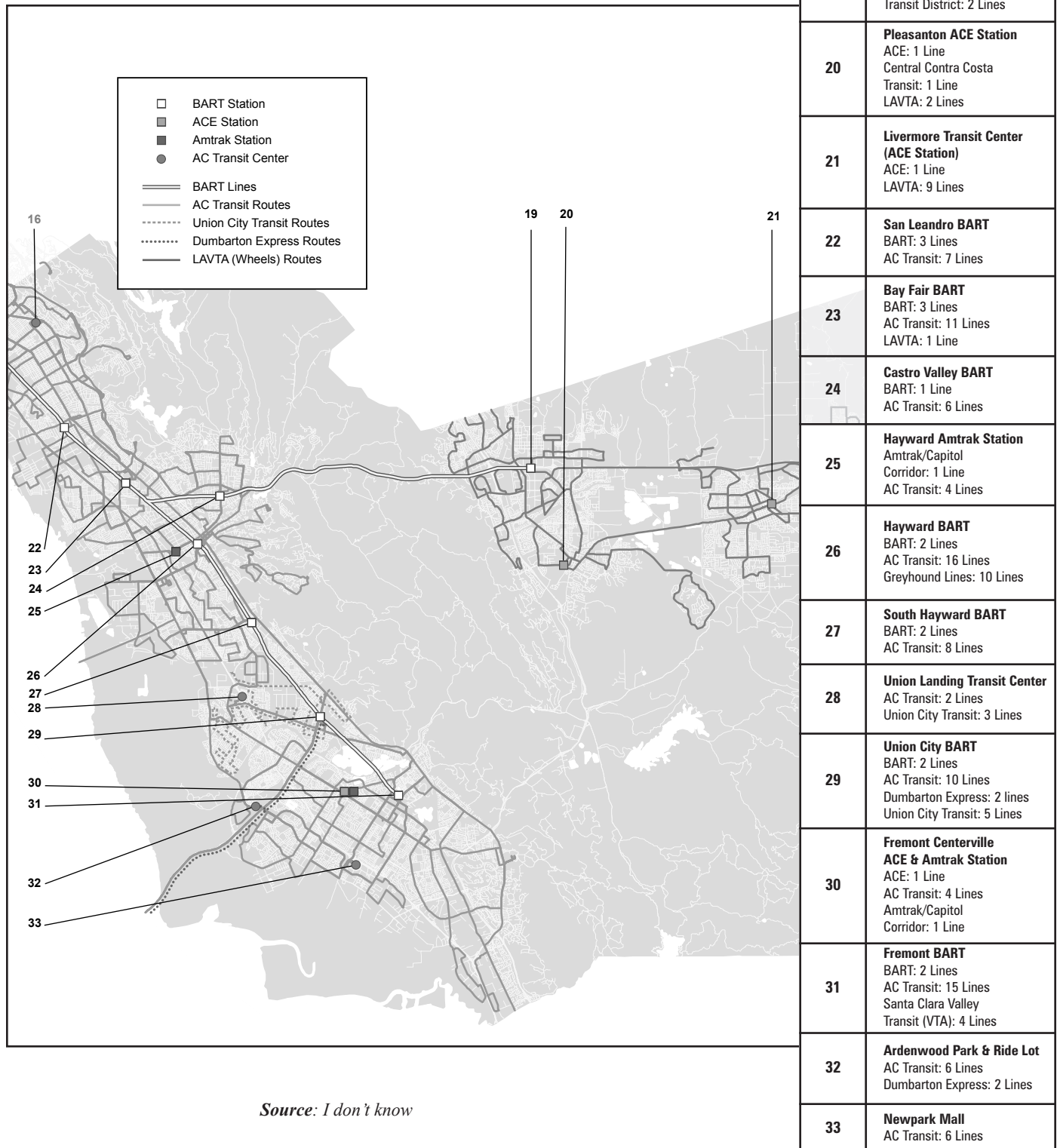
**Figure 5—Transit Connections Northern Alameda County**

1	North Berkeley BART BART: 2 Lines AC Transit: 2 Lines
2	Berkeley BART BART: 2 Lines AC Transit: 15 Lines UC Shuttles: 5 Lines
3	Berkeley Amtrak Station Amtrak/Capitol Corridor: 1 Line AC Transit: 3 Lines
4	Ashby BART BART: 2 Lines AC Transit: 3 Lines
5	Rockridge BART BART: 1 Line AC Transit: 4 Lines
6	Emeryville Amtrak Station Amtrak/Capitol Corridor: 1 Line Amtrak/San Joaquin: 1 Line AC Transit: 1 Line
7	MacArthur BART BART: 3 Lines AC Transit: 6 Lines Emery Go-Round: 2 Lines
8	19th St BART BART: 3 Lines AC Transit: 15 Lines
9	West Oakland BART BART: 4 Lines AC Transit: 4 Lines
10	12th St/City Center BART BART: 3 Lines AC Transit: 20 Lines
11	Lake Merritt BART BART: 3 Lines AC Transit: 4 Lines
12	San Francisco-Oakland Ferry Terminal Ferry: 1 Line AC Transit: 1 Line
13	San Francisco-Alameda Ferry Terminal Ferry: 1 Line AC Transit: 1 Line
14	Oakland Amtrak Station Amtrak/Capitol Corridor: 1 Line Amtrak/San Joaquin: 1 Line AC Transit: 3 Lines
15	Fruitvale BART BART: 3 Lines AC Transit: 8 Lines
16	Eastmont Mall AC Transit: 7 Lines
17	Coliseum/Oakland Airport BART & Amtrak Station BART: 3 Lines Air-BART: 1 Line Amtrak/Capitol Corridor: 1 Line AC Transit: 7 Lines
18	Harbor Bay Ferry Ferry: 1 Line AC Transit: 1 Line

continued on next page



Figure 5—Transit Connections Southern, Central and Eastern Alameda County





Vehicle Maintenance

Rail and bus transit operators have different indicators of vehicle maintenance: bus operators report on Miles Between Mechanical Road Calls; and BART and ACE report on the Mean Time Between Failures.

For all transit modes, fewer miles between road calls or failures can be a sign of an aging fleet. A larger number of miles generally indicates a newer fleet or a higher proportion of newer vehicles. It can also indicate improved maintenance of the fleet or improved transit operations.

Service calls are for a variety of reasons including mechanical problems, fare box issues, and broken lights. They include service calls to the dispatch yard, the bus terminals, BART, as well as vehicles in-route and those that are either in-service or about to go into service.

Mechanical Road Calls

As shown in Appendix B-6, AC Transit reported a stable amount of miles between road calls in FY 2008-2009 compared to the previous year. LAVTA shows a 19 percent increase in miles between road calls while Union City Transit reported a 30 percent decrease of miles between mechanical road calls compared to the previous fiscal year. LAVTA's increase in miles between road calls may be attributed to an aggressive maintenance program. Union City Transit's decrease in miles between road calls may be due to a different reporting method.

Mean Time Between Rail Service Delays

BART and ACE collect data to determine the average time between service delays. Train delays can be caused by personnel or mechanical failures. Appendix B-7 indicates that the BART system had improved steadily since 2005, but reduced by 11 percent over the past year. BART's overall reduction in time between service delays in the past four years may be due to an aging fleet combined with the loss of a train yard. The Mean Time between Service Delays for ACE in FY 2008-2009 reduced by 17 percent compared to the previous year. ACE's change may be due to operational improvements that were the result of two factors: 1) the reduction in Union Pacific's freight traffic along the rail lines by 40 percent compared to previous years, and 2) Union Pacific's installation of a new signal system, which reduced signal-related delays of ACE trains by approximately 90 percent.

Major Mechanical System Failures

The Federal Transit Administration defines a major mechanical system failure as a mechanical problem in which the vehicle does not complete its scheduled revenue trip or does not start its next scheduled revenue trip because actual movement is limited or because of safety concerns. The failure may occur in revenue service including layover/recovery time or during deadhead. Revenue vehicle system failures are reported as major mechanical system failures if they limit actual vehicle movement or are safety issues.



Examples of major bus failures include breakdowns of air equipment, brakes, doors, engine cooling system, steering and front axle, rear axle and suspension and torque converters. Major BART vehicle systems include automatic train operation, brake, auxiliary electric, door, propulsion and electric couplers. BART had 229 major system failures in FY 2008-2009, representing a seven percent increase compared to the previous year.

Routing

Routing is used to determine how many transit passengers are being served using a combination of three measurements:

- **Directional Route Miles.** Measures the amount of surface (roadway or trackway) that is covered by transit. For example, a one-mile segment of road over which transit operates in both directions would be reported as two miles, while a one-mile segment traversed by vehicles six times in the same direction would be counted as one-mile.
- **Service Coverage.** Measures the amount of service provided, including number of routes and frequency, on the transit system. For instance, a one-mile segment traversed by vehicles six times in the same direction would be counted as six-miles.
- Total annual **passenger** boardings.

While transit service has varied year to year, the overall trend shows that more transit service is being provided and more people are being served. Since FY 2002-2003, transit operators have provided more frequent headways, more routes and more route miles to more people. As shown in **Table 6**, compared to last year:

- Transit service covered slightly more directional route miles (two percent);
- Transit provided slightly less frequent service and fewer routes compared to the previous year (reduced over two percent); and
- The number of passengers riding transit decreased by over two percent.

Table 6: Transit Service to Passengers within Alameda County

MEASURE	2004/05	2005/06	2006/07	2007/08	2008/09	% change last year
Directional Route Miles	1,918	1,757	1,851	1,917	1,951	2%
Service Coverage (000s)	309.1	322.3	335.4	385	376	-2%
Annual Passenger Boardings (000s)	93,052	97,501	98,593	98,702	96,450	-2%



Frequency

Frequency is measured by how often transit service is provided on each route. For BART and bus, frequency is measured by the number of minutes between trains (headway). For Capital Corridor and ACE, frequency is measured by the number of train lines provided. Service hours vary by operator:

- AC Transit has provided 24-hours a day service since December 2005;
- AC Transit “All Nighter” routes provide Transbay and East Bay service at times when BART is not running;
- Union City Transit operates between 4:15 a.m. and 10:35 p.m.; and
- BART operates between 4:00 a.m. and 12:00 a.m.

BART serves 19 Alameda County stations. Depending on the trip origin or destination, service is provided every 2 ½ to 15 minutes during the peak commute periods. In January 2008, BART changed service from every 20 minutes to every 15 minutes after 7:00 p.m. on weekdays, Saturdays and all day Sundays. Three transfer points at MacArthur Station and 12th Street Station (Oakland) and Bay Fair Station (San Leandro) provide transfers between BART lines.

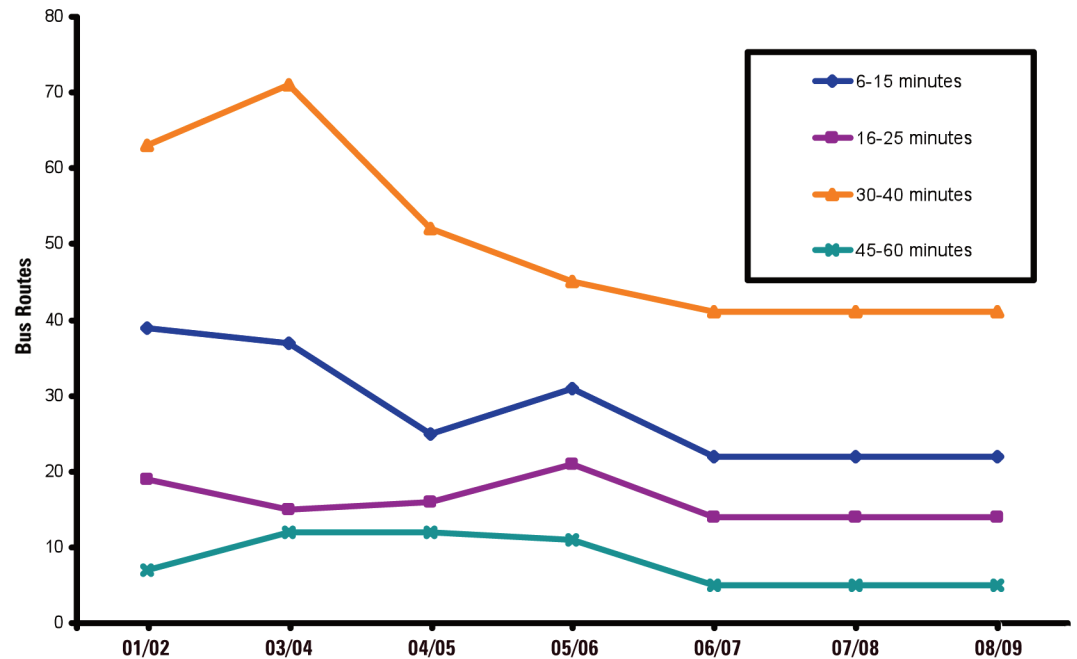
Appendix B8 shows the number of bus and train routes in Alameda County by how often they arrive, (headway). Amtrak/Capitol Corridor and ACE are shown by the number of trains that run different times of day.

Figure 6 shows that the frequency of bus service peaked approximately five years ago and has remained stable in the past three years. During the peak commute hours, 93 percent of Alameda County bus routes (77 routes) arrive every 40 minutes or less and 27 percent (22 routes) arrive every 15 minutes or less. Compared to the previous year, buses maintained the same frequencies.

Ferries neither scheduled major service changes, nor had any service disruptions in FY 2008-2009.



Figure 6: Bus Service Frequency



Source: Transit Operators

Lifeline Transportation Funded Projects

The CMA Board requested that the Performance Report include a summary of projects that were funded through the Lifeline Transportation Program. The Lifeline Transportation Program is a program initiated by MTC and administered by CMA to support transportation improvements in low income communities. A list of projects approved for Lifeline Transportation funding, which includes transit projects, is included in Appendix B-9.

CHAPTER FOUR

BICYCLING







OVERVIEW

The CMA and ACTIA adopted Countywide Bicycle Plan (2001) was updated in 2006. The Plan includes projects and programs to improve bicycle access and safety within Alameda County, as well as facilitate connectivity with neighboring communities. The Plan has three levels of investment:

- The Vision Network, representing the entire proposed bikeway system, encompasses 549 miles of bicycle facilities;
- The Financially Constrained Network, a subset of the Vision network, includes core bicycle facilities that can be completed with available revenues over the next 25 years; and
- High Priority projects, representing a 28 mile subset of the Vision network expected to be completed by 2010.

Included in these levels of investment are three implementation components: the bikeway network, transit-priority zone projects and rehabilitation of on-street bicycle network projects. The following four programs also are included: signage, maintenance, parking and education/promotion.

Over the past fiscal year, nine miles of bicycle facilities were constructed and progress was made on 12 High Priority projects. The countywide network now has 233 miles of existing bikeways and is 42 percent complete. An additional 316 miles are planned for construction or rehabilitation.

MEASURING PROGRESS TOWARD THE PLAN

Three measures are used to evaluate progress toward the Plan's goals:

- Completed High Priority Projects
- Number of People Bicycling
- Number of Bicycle Collisions with Motor Vehicles

Completed High Priority Projects

In FY 2008-2009, local jurisdictions reported progress on 12 of the 16 High Priority projects (see Appendix C-1). Progress included securing funding and completing plans, environmental studies, maintenance and engineering. Appendix C-2 lists other bicycle projects included in the Vision Network that were constructed in FY 2008-2009.

Number of People Bicycling

CMA and MTC have coordinated with local jurisdictions to monitor the number of bicyclists traveling through 15 major intersections in Alameda County. The number of bicyclists at most of these locations is available since 2002. Overall, this data shows



that the number of people bicycling is generally increasing (see Appendix C-3). Since 2008, the highest increase in the number of people bicycling was at Milvia Street and Hearst Avenue (Berkeley), with 82 more bicycles than in 2006. The highest decrease in people bicycling was at the Paseo Padre Parkway and Mowry Avenue intersection (Fremont), where the bike counts decreased by 27 percent, from 22 bicyclists in 2006 to 16 bicyclists in 2008.

Number of Bicycle Collisions with Motor Vehicles

Bicycle collisions with motor vehicles reveal safety trends for bicyclists. Between 2007 and 2008, the reported number of such collisions—resulting in injuries and fatalities—increased countywide by 26 percent, from 534 to 673 collisions (see Appendix C-4). During a similar period, as noted above, the number of people bicycling also increased, which may indicate that the rate of collisions remains steady countywide.

CHAPTER FIVE

WALKING







OVERVIEW

The CMA Board and ACTIA adopted the first Countywide Strategic Pedestrian Plan in October 2006. The Plan identifies and prioritizes pedestrian improvements and programs to promote walking and improve pedestrian safety on a countywide level.

MEASURING PROGRESS TOWARD THE PLAN

Performance measures to monitor progress toward the goals of the Strategic Pedestrian Plan are being developed, and may include:

- Completed Projects
- Number of People Walking
- Number of Pedestrian Collisions with Motor Vehicles

Completed Projects

Funding for capital projects in the Plan are focused in areas of countywide significance, defined as “places that serve pedestrians traveling to and from a variety of locations through Alameda County and beyond.” Three targeted areas and corresponding capital projects and programs include:

- **Access to Transit.** Projects improve access to key transit within one-half mile of a transit stop or line;
- **Access to Major Activity Centers.** Pedestrian projects that improve access to and within downtowns and major commercial districts plus provide access to approximately 100 other major activity centers; and
- **Inter-jurisdictional Trails.** Trails that link populated areas. Three main examples include: San Francisco Bay Trail, of which approximately 52 miles still need to be constructed in Alameda County; Iron Horse Trail, of which 22 miles have yet to be constructed; and East Bay Greenway, of which approximately 49 miles have yet to be constructed. (Note: The East Bay Greenway is identified as a new proposed trail, although is not mapped in the current Plan. Portions of it are included in the Vision Network of the Countywide Bicycle Plan. The preliminary alignment runs between the Ohlone Greenway in Albany and the southern Alameda County border).

The following four projects of countywide significance were completed in FY 2008-2009:

City of Alameda’s Atlantic/Webster Streets Intersection Improvements

The Atlantic/Webster Streets intersection is one of Alameda's most heavily used bus stops (local and transbay). It draws commuters from the College of Alameda, the adjacent Independence Plaza senior residential facility and visitors/employees of the



Webster Street business district. This project involved removing a “pork chop” island, realigning crosswalks and installing accessible pedestrian signals.

San Francisco Bay Trail Eden Landing

In cooperation with the South Bay Salt Pond Restoration Project, construction of the first San Francisco Bay Trail segment in this project area was completed. This 2.9 mile segment extends the Bay Trail from Hayward Shoreline, across the existing bicycle/pedestrian bridge over SR-92, to a new staging area located at Eden Landing (this is also Project 2BJ in the Countywide Bicycle Plan).

San Francisco Bay Trail Oakland/San Leandro Connector

In June, the Port of Oakland completed a 240-foot bicycle path connecting Airport Drive to a previously-constructed path that runs along the southern edge of Metropolitan Links Golf Course to the site of the future San Leandro Slough Bridge. The bridge, currently under construction by the City of San Leandro, will connect paths in the vicinity of the Oakland International Airport to those in the Oyster Bay Regional Shoreline. This connection will provide a significant improvement to the Bay Trail and waterfront access over the existing on-street routes via Doolittle Drive and Williams Street in San Leandro (this is also Project 1BE in Countywide Bicycle Plan).

San Francisco Bay Trail Tidewater Segment

As part of Phase 1 of the Tidewater improvements along the Oakland Shoreline, the East Bay Regional Park District completed a one-half mile segment of the San Francisco Bay Trail connecting the Tidewater staging area to Martin Luther King, Jr. Regional Shoreline (this is also Project 1AY in Countywide Bicycle Plan).

Pedestrian Counts

As shown in Appendix D-1, the UC Berkeley Traffic Safety Center in 2009 and MTC in 2002 collected data to measure levels of pedestrian activity. Pedestrians were counted in the weekday afternoons at three intersections in Berkeley, Dublin and San Leandro. In comparing the two data sources by year, two locations (Dublin and San Leandro) showed an increase, while Berkeley counts remained relatively stable. Additional efforts to expand the number of pedestrian count sites are underway.

Pedestrian Collisions with Motor Vehicles

In 2008, the number of reported countywide motor-vehicle-involved pedestrian collisions resulting in injuries and fatalities, increased by nearly 4 percent from 2004, to 682 pedestrians. Also, in 2008, the County saw the highest number of fatal collisions in the past 5 years — 33 pedestrians were killed. Overall, the rate of pedestrian collisions appeared to remain steady, since the number of people walking has increased since 2002. (See Appendix D-2).



APPENDIX A

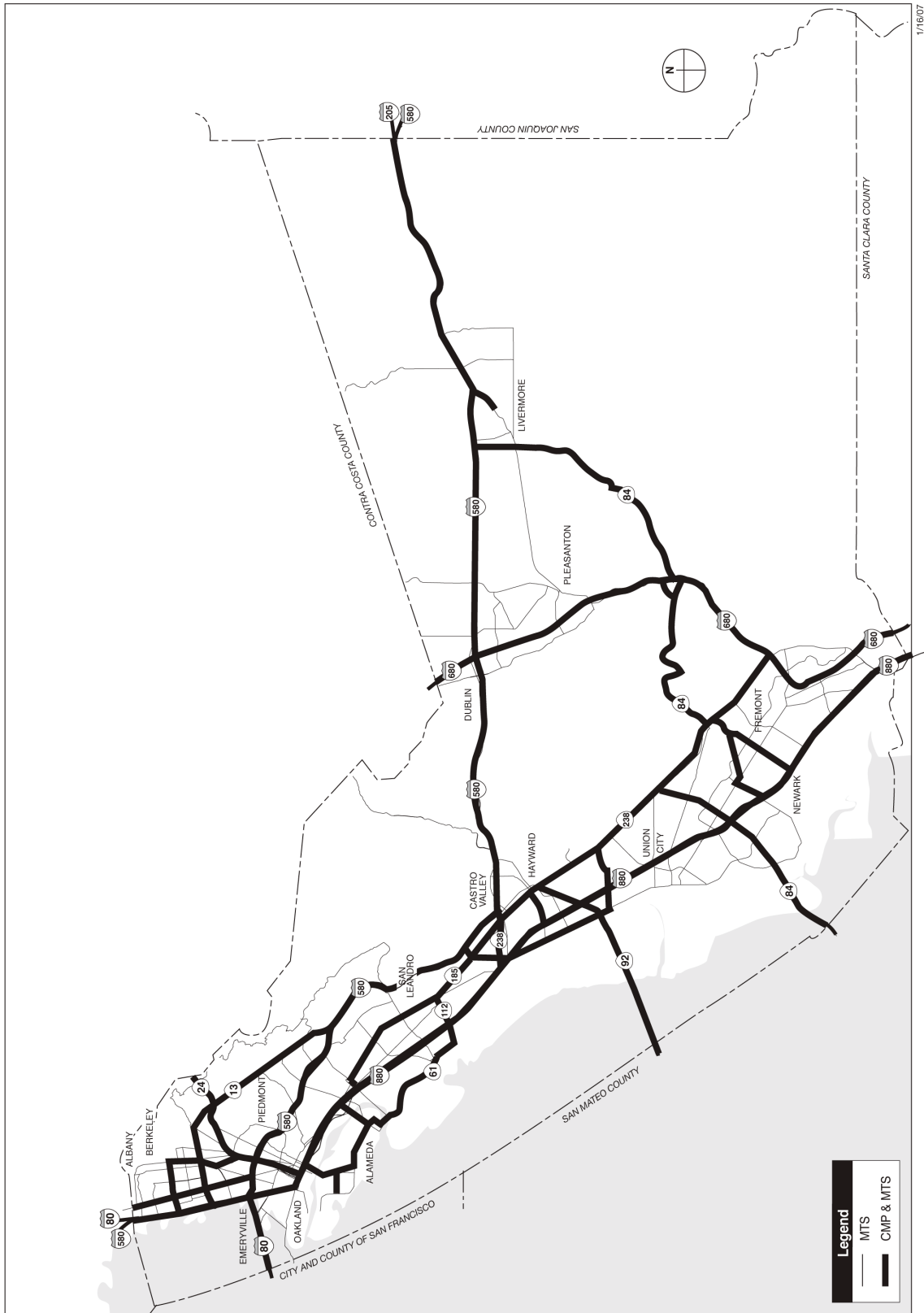
ROADWAYS

A-1	MTS and CMP Streets and Highway System	A-3
A-2	Level of Service Definitions	A-4
A-3	Top 10 Congested Locations in Alameda County	A-5
A-4	Pavement Condition by Jurisdiction within Alameda County	A-6
A-5	Alameda County Roadway Conditions	A-7
A-6	State Roadway Facilities Needing Rehabilitation in Alameda County	A-8
A-7	Local Streets and Roads Shortfall	A-9
A-8	Accidents on Alameda County Freeways	A-10



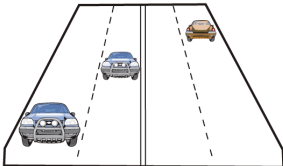
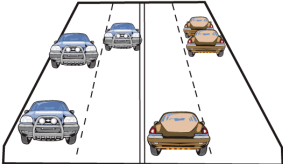
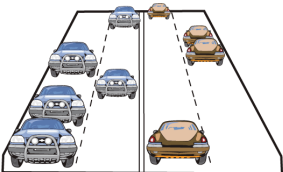
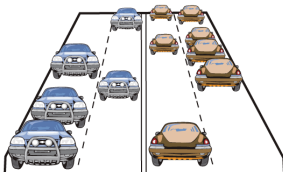
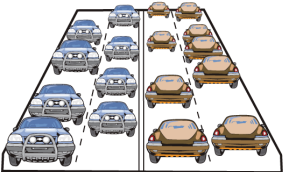
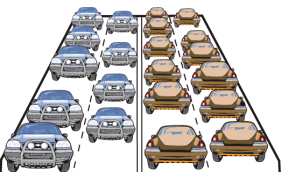


Appendix A-1 MTS and CMP Streets and Highway Systems





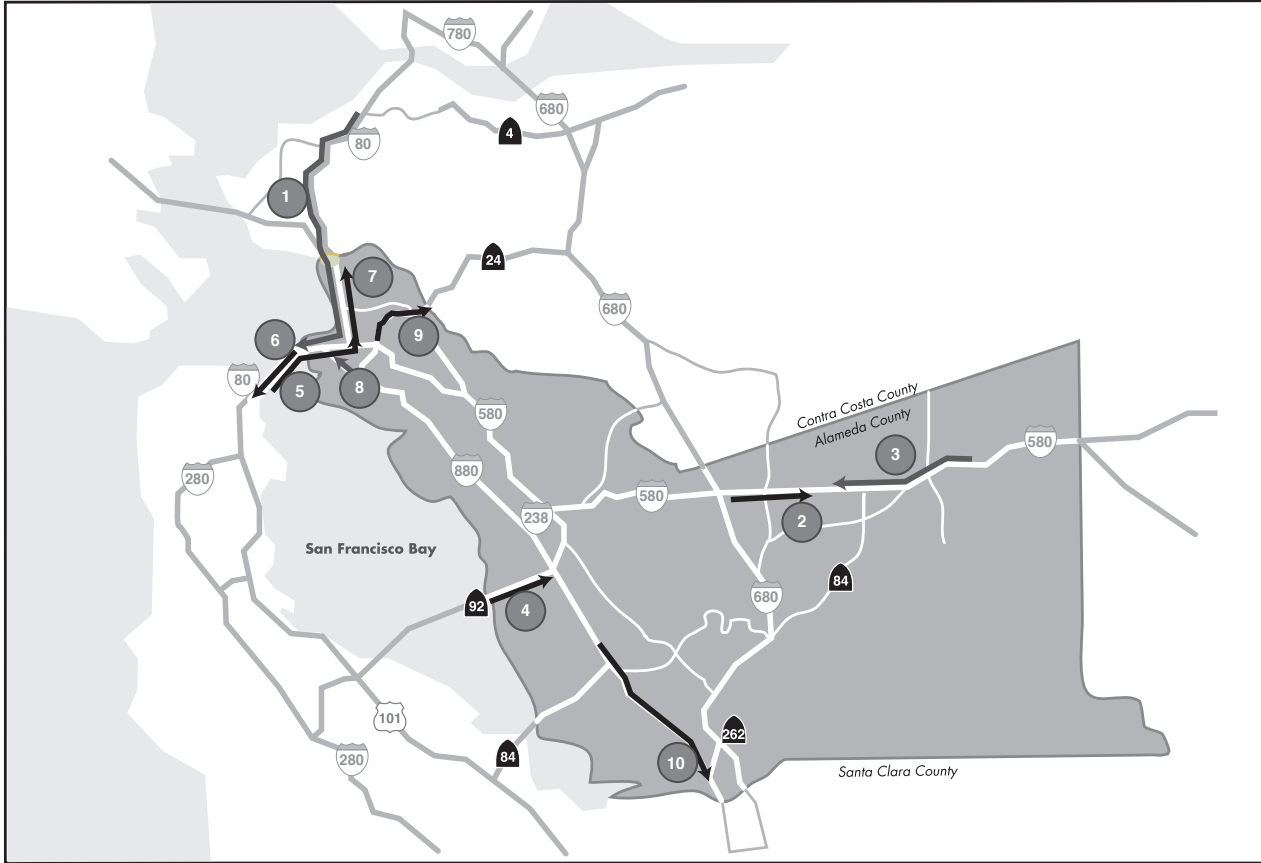
APPENDIX A-2 LEVEL OF SERVICE DEFINITIONS

Level of Service	Flow Conditions	Delay	Service Rating
A 	Highest quality of service. Free traffic flow with low volumes. Little or no restriction on maneuverability or speed.	None	Good
B 	Stable traffic flow, speed becoming slightly restricted. Low restriction on maneuverability.	None	Good
C 	Stable traffic flow, but less freedom to select speed or to change lanes.	Minimal	Adequate
D 	Approaching unstable flow. Speeds tolerable but subject to sudden and considerable variation. Less maneuverability and driver comfort.	Minimal	Adequate
E 	Unstable traffic flow and rapidly fluctuating speeds and flow rates. Low maneuverability and low driver comfort.	Significant	Poor
F 	Forced traffic flow. Speed and flow may drop to zero.	Considerable	Poor

Source: Highway Congestion Manual, 1985, Transportation Resource Board



APPENDIX A-3 TOP 10 CONGESTED LOCATIONS IN ALAMEDA COUNTY



Source: MTC, 2009

The 10 Most Congested Corridors in Alameda County

Freeway Corridor	Daily Delay (VHD)
1 WB I-80, SR-4 to Bay Bridge (am)	12,230
2 EB I-580, I-680 to west of El Charro (pm)	6,720
3 WB I-580, west of North Flynn to west of Airway (am)	5,320
4 EB SR-92, Clawiter to I-880 (pm))	3,880
5 EB I-80, 5th Street in San Francisco to Powell (pm)	3,030
6 WB I-80, toll plaza to 5th Street (pm)	2,760
7 EB I-80, I-580 to Gilman (pm)	2,470
8 NB I-880, West Grand to Maritime (am)	2,440
9 EB SR-24, east of Telegraph to Caldecott Tunnel (pm)	1,890
10 SB I-880, north of Fremont Boulevard to south of SR-262 (am)	1,920

morning ————— evening —————

VHD=Vehicle Hours of Delay

**APPENDIX A-4 PAVEMENT CONDITION IN ALAMEDA COUNTY**

CATEGORY	1996	2003	2004 ²	2005 ³	2006 ⁴	2007	2008
Excellent Condition	NA	18	21	12	12	7	10
Very Good Condition	NA	31	34	35	37	25	23
Good Condition	54	16	18	21	20	21	23
Fair Condition	25.9	13	13	16	14	23 ⁵	23
Poor Condition	15.1	11	7	11	11	15	15
Very Poor Condition	5	5	2	5	6	8 ⁶	6

Source: MTC, Pavement Management System.

Notes:

1. Not all jurisdictions reported data for all years.
2. In 2004-05, there was no data for 4 percent of the roadways monitored.
3. In 2005, MTC switched to calculating PCI based on lane miles, rather than centerline miles, which had been used since 2002.
4. In 2006, the City of Oakland changed the way they reported PCI.
5. Fair condition includes a new "at risk" category in 2007.
6. Very poor condition indicates "failed," as of 2007.



APPENDIX A-5 ALAMEDA COUNTY ROADWAY CONDITIONS

Pavement Condition Index (PCI)

JURISDICTION	County	Total Lane Miles	2003	2004	2005	2006	2007	2008	2007-2008 Change
Alameda	Alameda	315.07	68	65	64	60	64	63	-1
Alameda County	Alameda	1000.80	75	63	71	72	69	75	6
Albany	Alameda	59.12	59	61	60	66	63	60	-3
Berkeley	Alameda	453.00	63	67	58	61	60	58	-2
Dublin	Alameda	228.10	81	79	78	82	80	78	-2
Emeryville	Alameda	47.09	69	69	82	78	76	74	-2
Fremont	Alameda	1044.10	72	71	71	68	66	64	-2
Hayward	Alameda	616.20	65	67	67	69	68	69	1
Livermore	Alameda	638.33	75	79	80	79	77	75	-2
Newark	Alameda	251.06	76	78	78	69	67	71	4
Oakland **	Alameda	1974.30	57	56	52	61	57	57	0
Piedmont	Alameda	78.20	67	67	66	69	67	72	5
Pleasanton	Alameda	508.99	65	73	74	75	76	78	2
San Leandro	Alameda	389.50	63	64	62	60	59	56	-3
Union City	Alameda	330.48	N/A	N/A	76	75	75	79	4
Alameda County Total		7934.34							

Source: MTC

Notes:

PCI is a measurement of the condition of roadways. The scale is 0 to 100, with 100 being new pavement.

** PCI has been correlated from an alternative condition scale to the PCI scale.

For 2008, the weighted average PCI for Alameda County is 66. (The PCI is weighted by the percentage of total lane miles.)

**APPENDIX A-6 STATE ROADWAY FACILITIES NEEDING REHABILITATION**

(by lane miles)

Facility	2004 ²	2005	2007	2008
Interstate 80	0.0	1.9	5.3	1.4
Interstate 205	0.8	0.9	0.9	0.0
Interstate 238	5.6	0.1	2.0	1.8
Interstate 580	95.0	142.7	88.5	45.5
Interstate 680	62.5	70.1	36.7	25.9
Interstate 880	13.5	21.7	9.1	7.6
Interstate 980	0.4	0.4	1.2	0.8
State Route 13	15.3	15.3	9.6	NA
State Route 24	6.5	3.8	0.4	0.9
State Route 61	7.3	1.5	1.4	NA
State Route 77	1.4	1.4	1.3	NA
State Route 84	11.5	12.0	16.6	NA
State Route 92	6.2	5.6	7.1	NA
State Route 112	7.1	6.7	5.0	NA
State Route 123	17.6	3.9	0.0	NA
State Route 185	23.5	24.7	22.4	NA
State Route 238	12.8	29.6	20.8	NA
State Route 260	1.9	2.0	1.6	NA
State Route 262	1.1	3.21	1.5	NA

Source: Caltrans, District 4**Notes:** Information not available for 2006



APPENDIX A-7 LOCAL STREETS, ROADS AND BRIDGES SHORTFALL

Jurisdiction	Pavement Shortfall (x1000)	% MTS	% Non-MTS	Non-Pavement Short- fall (2)(x1000)	% MTS	% Non-MTS	Total Shortfall (3)	% MTS	% Non-MTS
County of Alameda	\$35,867.23	57%	43%	(\$236,556.28)	57%	43%	\$0.00	0%	0%
Alameda	\$113,890.50	57%	43%	\$94,957.13	57%	43%	\$208,847,632.59	57%	43%
Albany	(\$1,911.27)	48%	52%	\$14,937.56	48%	52%	\$13,026,291.31	48%	52%
Berkeley	\$116,747.35	44%	56%	\$94,823,468.78	44%	56%	\$211,570,816.11	44%	56%
Dublin	\$33,846,052.80	60%	40%	\$93,060.52	60%	40%	\$126,906,575.34	60%	40%
Emeryville	\$14,815.07	87%	13%	\$16,123.67	87%	13%	\$30,938,741.12	87%	13%
Fremont	\$354,859.33	66%	34%	\$393,581.05	66%	34%	\$748,440,383.90	66%	34%
Hayward	\$105,735.92	39%	61%	\$267,408.77	39%	61%	\$373,144,689.49	39%	61%
Livermore	\$125,207,346.75	40%	60%	\$151,765.89	40%	60%	\$276,973,236.51	40%	60%
Newark	\$86,555.64	76%	24%	\$69,818.90	76%	24%	\$156,374,536.67	76%	24%
Oakland	\$723,801.18	47%	53%	\$346,927.23	47%	53%	\$1,070,728,409.35	47%	53%
Piedmont	(\$5,493.99)	34%	66%	\$5,009.48	34%	66%	\$0.00	0%	0%
Pleasanton	\$74,349.16	67%	33%	\$73,172.66	67%	33%	\$147,521,815.43	67%	33%
San Leandro	\$58,569.72	44%	56%	\$135,638.43	44%	56%	\$194,208,151.86	44%	56%
Union City	\$59,416.19	72%	28%	\$115,571.79	72%	28%	\$174,987,975.73	72%	28%
COUNTY TOTAL	\$1,896,255.44	54%	46%	\$1,636,240.27	53%	47%	\$3,733,669,255	54%	46%

Source: MTC, November 2009

Note: 1. Funding shortfall represents total funding revenue over a 25-year period minus the total need over that period.

2. Non-pavement represents support facilities for paved surface, such as curb and gutter and storm drains.

3. The total shortfall figure does not exactly match the sum of the pavement and the non-pavement shortfalls. The reason for this is that MTC zeroes out any revenue surpluses from jurisdictions that are listed in the total column, assuming that if there is revenue beyond what is needed, it is transferred elsewhere in the jurisdiction's budget and is not rolled over to the following year.

**APPENDIX A-8 ACCIDENTS ON ALAMEDA COUNTY FREEWAYS**

Accidents Per Million Vehicle Mile

FREEWAY	2004	2005	2006	2007	2008	Change from 2007-2008	Similar State Facility*
I-80	2.06	1.68	1.7	1.62	1.42	-14%	1.05
I-238	2.08	1.98	1.63	2.28	2.51	9%	1.02
I-580	0.88	0.84	0.79	0.78	0.67	-16%	0.85
I-680	0.49	0.49	0.52	0.54	0.45	-20%	0.97
I-880	1.24	1.24	1.12	1.12	1.06	-6%	1.02
I-980	0.63	1.20	1.21	0.71	0.75	5%	0.79
SR-13	1.08	0.98	0.93	0.78	0.71	-10%	0.89
SR-24	1.54	1.71	1.38	1.14	1.12	-2%	0.89
SR-84	1.06	0.86	0.91	0.91	0.72	-26%	0.91
SR-92	1.62	1.31	0.84	0.85	0.83	-2%	1.22

*Rate based on number of fatal and injury accidents per million vehicle miles.

Source: Caltrans, District 4

Total Number of Accidents in Alameda County

FREEWAY	ROUTE LENGTH	2004	2005	2006	2007	2008	Change from 2007-2008
I-80	9.29	1244	1359	1258	1226	1054	-16%
I-238	2.53	160	191	168	231	250	8%
I-580	54.28	2536	2687	2543	2502	2023	-24%
I-680	21.48	549	551	592	597	478	-25%
I-880	37.07	3244	3216	2934	2862	2672	-7%
I-980	2.03	49	79	73	43	50	14%
SR-13	5.7	129	121	108	91	81	-12%
SR-24	4.39	357	401	307	256	234	-9%
SR-84	6.01	85	143	132	121	93	-30%
SR-92	6.42	217	225	194	191	178	-7%

Source: Caltrans, District 4



APPENDIX B

TRANSIT

B-1	MTS Transit System	B-3
B-2	Annual Ridership Change	B-4
B-3	Passenger Boardings per Revenue Vehicle Mile	B-4
B-4	Passenger Boardings per Revenue Vehicle Hour	B-4
B-5	Weekday Passenger Boardings	B-5
B-6	Miles between Mechanical Road Calls	B-5
B-7	Mean Time between Service Delays	B-5
B-8	Transit Frequency	B-6
B-9	Lifeline Transportation Funded Projects	B-8



**APPENDIX B-2 ANNUAL RIDERSHIP CHANGE**

PROVIDER	PERCENT
AC Transit	0.0
BART	0.0
LAVTA	-1.8
Union City Transit	5.6
ACE Commuter Rail	17.2
Alameda Harbor Bay Ferry	-1.6
Alameda/Oakland Ferry	-12.8
Capitol Corridor Intercity Rail	0.0

APPENDIX B-3 PASSENGER BOARDINGS PER REVENUE VEHICLE MILE

OPERATOR	2004/05	2005/06	2006/07	2007/08	2008/09
AC Transit	3.1	3.2	3.1	3.1	3.1
BART	1.7	1.7	1.7	1.7	1.7
LAVTA	1.2	1.3	1.2	1.3	1.1
Union City Transit	NA	0.8	0.9	1.0	1.0
ACE Commuter Rail	0.9	0.9	1.1	1.0	0.9
Alameda Harbor Bay Ferry	7.8	8.7	9.1	8.7	8.2
Alameda/Oakland Ferry	7.4	4.8	4.9	5.0	4.9

APPENDIX B-4 PASSENGER BOARDINGS PER REVENUE VEHICLE HOUR

OPERATOR	2004/05	2005/06	2006/07	2007/08	2008/09
AC Transit	3.6.1	33.9	36.8	31.9	31.9
BART	56	56.9	59.1	59.4	59.1
LAVTA	16.9	17.7	20.5	19.2	15.8
Union City Transit	NA	10.36	10.9	11.05	11.4
ACE Commuter Rail	NA	32.5	33.4	38.5	35.4
Alameda Harbor Bay Ferry	79.4	88.2	91.7	95.4	82.6
Alameda/Oakland Ferry	76.61	78.9	80.35	84	95.2



APPENDIX B-5 WEEKDAY PASSENGER BOARDINGS

OPERATOR	2004/05	2005/06	2006/07	2007/08	2008/09
AC Transit	184,575	199,524	199,635	192,055	192,056
BART	111,303	116,502	120,989	126,098	126,031
ACE	800	829	852	1,053	1,048
TOTAL	297,087	318,539	321,476	319,206	319,135

APPENDIX B-6 MILES BETWEEN MECHANICAL ROAD CALLS

OPERATOR	2005	2006	2007	2008	2009
AC Transit	6,300	7,685	5,746	5,648	5,648
LAVTA	28,797	27,459	5,506	4,089	4,904
UC Transit	7,120	6,394	9,186	6,926	3,413

Source: Transit operators, as requested.

Note: LAVTA changed their method of reporting in 2009 so it cannot be compared to prior years.

APPENDIX B-7 MEAN TIME BETWEEN SERVICE DELAYS (IN HOURS)

OPERATOR	2005	2006	2007	2008	2009
BART	1,901	2,016	3,004	3,007	2,683
ACE	—	—	625	658	546

Source: Transit operators, as requested.

Note: ACE changed their method of reporting in 2007 so it cannot be compared to prior years.



APPENDIX B-8 TRANSIT FREQUENCY

		NUMBER OF TRAINS					
		Times of Day:	PEAK PERIOD ²				
Frequency in minutes	Fiscal Year:	01/02	04/05	05/06	06/07	07/08	08/09
	HEADWAYS*			BUS			
	6-15	39	25	31	22	22	22
	16-25	19	16	21	14	14	14
	30-40	63	52	45	41	41	41
	45-60	7	12	11	5	5	5
	90	1	0	0	0	0	0
	HEADWAYS			BART ⁵			
	2.5-6 ⁶	6	10	10	10	10	10
	7-15 ⁷	11	9	9	9	9	9
	16-20	2	0	0	0	0	0
Number of Trains	DIRECTIONS	Amtrak/Capitol Corridor					
	Eastbound	4	4	4	4	4	4
	Westbound	4	4	4	4	4	4
	DIRECTIONS	ACE (peak period service only)					
	Eastbound	3	3	3	3	3	3
	Westbound	3	3	3	3	3	3

Notes

² Peak hour service is defined as 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

³ Midday service is defined as 9:00 a.m. to 4:00 p.m.

⁴ Service hours vary by operator (i.e., AC Transit and LAVTA—round the clock; Union City Transit—4:15 a.m. to 10:35 p.m.; and BART—4:00 a.m. to midnight.).

⁵ BART has 19 stations in Alameda County: Fremont, Union City, South Hayward, Hayward, Bayfair, San Leandro, Coliseum/Oakland Airport, Fruitvale, Lake Merritt, Oakland City Center/12th Street, 19th Street, MacArthur, Rockridge, Ashby, Berkeley, North Berkeley, West Oakland, Castro Valley and Dublin/Pleasanton.



NUMBER OF TRAINS

MIDDAY ³						EVENING ⁴					
01/02	04/05	05/06	06/07	07/08	08/09	01/02	04/05	05/06	06/07	07/08	08/09
		BUS						BUS			
10	12	12	13	13	13	10	2	4	5	5	5
6	3	4	4	4	4	15	2	10	4	4	4
56	40	42	35	35	35	49	37	39	24	24	24
15	17	22	11	11	11	17	11	14	12	12	12
3	1	2	0	0	0	2	0	3	0	0	0
		BART ⁵						BART ⁵			
6	9	9	9	9	9	0	0	0	0	0	0
13	10	10	10	10	10	6	9	9	9	19	19
4	0	0	0	0	0	13	10	10	10	0	0
	Amtrak/Capitol Corridor						Amtrak/Capitol Corridor				
4	4	4	4	4	4	2	4	4	4	4	4
3	4	4	4	4	4	2	4	4	4	4	4

⁶ Two sets of BART stations are served by three lines. MacArthur, 19th Street, and 12th Street stations are served by the Pittsburg/Bay Point-Daly City, Richmond-Daly City/Colma, and Richmond-Fremont lines. Bay Fair, San Leandro, Coliseum/Oakland Airport, Fruitvale, and Lake Merritt stations are served by the Richmond-Fremont, Fremont-Daly City, and Dublin/Pleasanton-San Francisco Airport (SFO)/Millbrae lines. One station (West Oakland) is served by four lines (Pittsburg/Bay Point-Daly City, Richmond-Daly City/Colma, Fremont-Daly City, and Dublin/Pleasanton-San Francisco Airport (SFO)/Millbrae lines).

⁷ Each of the four BART lines that use the TransBay Tube (Pittsburg/Bay Point-Daly City, Richmond-Daly City/Colma, Dublin/Pleasanton-San Francisco Airport (SFO)/Millbrae, and Fremont-Daly City) operates with 15 minute headways, except for the Pittsburg/Bay Point-Daly City line, which operates with 7 minute headways during the peak hours.



APPENDIX B-9 LIFELINE TRANSPORTATION FUNDS

MTC initiated a Lifeline Transportation Program to support transportation improvements in low income communities. CMA manages the County's Lifeline program. These projects are included in the transit section of this report although they include pedestrian and bicycle improvements. The following five Lifeline projects were approved in 2006, and are ongoing:

- AC Transit Service, day and evening, lines 83, 86, 386, Hayward and South Hayward
- Ashby BART Station/Ed Roberts Campus, Berkeley, Accessibility improvements, Berkeley
- E. Lewelling Boulevard Pedestrian streetscape improvements, Unincorporated Hayward
- Quicker, Safer Trip to Library, West Oakland – transportation for children to library
- LAVTA WHEELS Route 14 Service Provision, Livermore

Additionally, the CMA Board approved the following eight Lifeline projects for 2009.

- San Leandro LINKS shuttle, from BART to employment
- Quicker, Safer Trip to Library, West Oakland
- Meekland Avenue Transit Access Improvements, unincorporated Hayward
- Hacienda Avenue Transit Access Improvements, unincorporated Hayward
- AC Transit Service Preservation in Communities of Concern – Alameda, Oakland, San Leandro, South Hayward, unincorporated Hayward,
- Neighborhood Bicycle Centers, Oakland and Alameda
- LAVTA WHEELS Route 14 Service Provision, Livermore
- Environmental Justice Access to BART, Berkeley and Oakland



APPENDIX C

BICYCLING

C-1	Progress of High Priority Bicycle Project	C-2
C-2	Progress of Bicycle Vision Network Projects	C-4
C-3	Bicycle Counts	C-6
C-4	Bicycle Collisions with Motor Vehicles	C-7

**APPENDIX C-1 PROGRESS OF HIGH PRIORITY BICYCLE PROJECTS**

Jurisdiction	Project/ Segment #	Project Name	Type	Roadway	Limits: From, To
ABAG	42-BF	San Leandro Slough Bridge	new bike/ped bridge	Bike/Ped Bridge	Slough, north to Slough south
Alameda	4-A-D	Alameda/Doolittle/ Lewelling	To be determined	Atlantic/ Appezzato	Ferry Point to Tilden Way
Alameda County	4-Z1-Z2	Alameda/Doolittle/ Lewelling	Class 2 bike lane	Lewelling	Hesperian to East 14th
Albany	59-A	Buchanan-Marin	Class 1 Bike Path	Buchanan Street	Buchanan Overcrossing to San Pablo Ave
Berkeley	11-AC	N. Alameda County, I-580/ Foothills	Class 3 Res. Street	Virginia	Acton/Ohlone Trail to Milvia
Berkeley	11-AB	N. Alameda County, I-580/ Foothills	Class 1 Bike Path	Ohlone Greenway	Albany/Berkeley city limits to Virginia
Dublin	55-AA	Alamo Canal, I-580/ I-680 Connector	Class 1 Bike Trail	Alamo Canal Trail	San Ramon Creek Trail to Alamo Canal Trail
E. Bay Parks/UC Hayward	2-BJ	S. Alameda County, I-880 Corridor	Class 1 Bike Trail	Bay Trail	Eden Landing to Alameda Creek Bridge
Emeryville	56-AA	Emeryville bike/ped bridge	Class 1 overpass	New Overcrossing	Shellmound to Horton
Fremont	58-A	Fremont-Santa Clara	Class 2 Bike Lane	Fremont Blvd.	South Grimmer to SCC limits
Hayward	13-JC2	Central County, I-580/Foothills	Class 1 Bike Trail	Industrial/ Mission	SPRR/BART tracks to Woodland
Livermore	37-TB2-TB9	Isabel Avenue Trail and Bike Lanes	Class 1/ Class 2	Isabel Ave	Jack London Blvd to Portola
Oakland	7-BB-BC	I-880 Corridor	Class 2 bike lane	12th St.	Oak/Lakeside to Fruitvale
Pleasanton	34-TB	Iron Horse Trail	Class 1 bike trail	Iron Horse Trail	I-580 to Pleasanton City Limit
San Leandro	1-BI	N. Alameda County, Bay Trail	Class 1 bike trail	Bay Trail	Marina Blvd to Fairway Drive
Union City	9-JE-JH	S. Alameda County, I-880 Corridor	Class 1/ Class 2	Union City Blvd.	Horner to Alameda Creek Bridge



APPENDIX C-1 PROGRESS OF HIGH PRIORITY BICYCLE PROJECTS

Miles	Progress 2008-09: High-priority Bicycle Facilities
0.1	NEPA process completed. Project fully funded and advertised.
3.6	City prevailed in litigation with the Alameda Belt Line regarding property ownership in this corridor, which will facilitate acquisition of property by the City and will enable this project to move forward.
1.4	Completed PS&E Advertised Bids
0.6	35% PS&E being finalized. In the summer of 2009, the City submitted a grant application for construction of Segments I and II of the project, which includes extending the bicycle lanes from Cornell Ave. to San Pablo Ave., building a Class I path from San Pablo Avenue to Buchanan Street and Jackson Street, and extending the Class II westbound bicycle lane from San Pablo Avenue to the Buchanan Street overcrossing. If successful, construction will start in the summer of 2010. The remaining segments (III and IV) will be built pending available funding.
0.7	Repaved Virginia Street and installed new Bicycle Boulevard legends from Acton Street to Sacramento Street. Maintained diverter at Virginia Street/McGee Avenue.
0.7	Redesigned Ohlone Greenway from Albany border to Neilson as part of BART project.
0.2	ACTIA approved \$891,000 for construction. Still needs approximately \$1.0M to construct project. Design is nearing completion.
3.0	This project is on hold due to the proposed flood control levee project at the same location.
0.3	None
3.8	None
0.3	None
3.0	No progress on Isabel Avenue Trail, but the bike lanes are currently under construction as part of the Isabel Avenue/I-580 Interchange project. Completion is expected in spring 2012. The bicycle lanes will begin at the terminus of the multi-use trail at W. Jack London, then will go up/over I-580 and will end at the intersection with Portola/N. Canyons Pkwy/Campus Hills Dr. (all on Isabel Ave). Total length = 7,200 linear feet.
2.7	Environmental clearance completed for Oak/Lakeside to 2nd Ave (7-BB) feasibility study and 65% design completed for 2nd Ave to Fruitvale Ave (7BC).
4.5	Feasibility study to be conducted for Iron Horse Trail from east Dublin/Pleasanton BART station to Santa Rita Road. The mileage for this portion of the trail is 0.9 miles. East Bay Regional Parks District is the lead agency on the Feasibility study. They applied for and secured a grant from ACTIA to partially fund the study. The City of Pleasanton and EBRPD are providing the balance of the funding. The study will be conducted by a consulting firm, but the consulting firm has not been selected yet.
0.4	None
2.6	City council adopted the Union City Blvd. Lane Configuration Study in Nov. 2008, which includes the continuation of bike lanes from Smith St. to the south City limits with Fremont at Alameda Creek bridge, thereby eventually providing the entire Union City Blvd. corridor with bike lanes on both sides. Unfortunately, the lack of funding has prevented the City from beginning this project so far.



APPENDIX C-2 PROGRESS OF BICYCLE VISION NETWORK PROJECTS

Jurisdiction	Project Number In Alameda Countywide Bicycle Plan	Project Title	Project Location	Project Description	Number of Miles Constructed
Alameda	Project 4K1 Corridor 15	Bay Farm Island Bicycle Bridge Gap Closure	Adjacent to Fernside Blvd.	Construction of a two-way bicycle path adjacent to the existing sidewalk, which provides separation between bicyclists and pedestrians on a heavily used segment of Bay Trail. The project is also buffered from motor vehicle traffic by a concrete barrier.	0.3
Alameda County	Project 31AO Corridor 70	Tesla Road Bicycle Lanes	South Livermore Avenue/Tesla Road between the Livermore City Limits and Buena Vista Avenue and between 0.6 miles east of South Vasco Road and Greenville Road	Construction of Class II bicycle lanes	1.2
Dublin	Project 15 and Project 38, Segment AB	Dublin Blvd Bicycle Lanes	Dublin Boulevard between Dougherty Road and Tassajara Road (about 2 miles) and on Tassajara Road between Dublin Boulevard and Somerset Lane (about 1 mile)	Construction of bicycles lanes	3
East Bay Regional Park District (EBRPD)/ University of California at Hayward	Project 1AY	San Francisco Bay Trail: Tidewater Segment (part of Phase 1)	Along the Oakland Shoreline, connecting the Tidewater staging area to Martin Luther King, Jr. Regional Shoreline.	Completed a segment of the Bay Trail	0.5 mile
	Project 2BJ	San Francisco Bay Trail: Eden Landing	Extends the Bay Trail from Hayward Shoreline, across the existing bicycle/ pedestrian bridge over Highway 92, to a new staging area located at Eden Landing and on to the Eden Shores housing development.	Construction was completed on the first Bay Trail segment in cooperation with the South Bay Salt Pond Restoration Project.	2.9 miles



APPENDIX C-2 PROGRESS OF BICYCLE VISION NETWORK PROJECTS

Jurisdiction	Project Number In Alameda Countywide Bicycle Plan	Project Title	Project Location	Project Description	Number of Miles Constructed
Oakland	Project 5-SPR1B	66th Avenue Bicycle Lane overcrossing	66th Avenue Overcrossing between Oakport Street to Bay Trail	Construction of Class 1 bicycle lane	0.2 miles
	Project 13-CJ	Bancroft Avenue Bicycle lanes	Bancroft Avenue from Camden St/Havenscourt Blvd. to 82nd Avenue	Construction of Class II bicycle lanes	0.9 miles
	Project 4-01	Doolittle Drive bicycle lanes	Doolittle Drive from Airport Access Road to Eden Road	Construction of Class II bicycle lanes	0.5 miles
	Project 1-AJ	Mandela Pkwy bicycle lanes	Mandela Parkway from 7th Street to 8th Street	Construction of Class II bicycle lanes	0.1 miles
	Project 7-AW, 7-AV, 7-SPR1E	Market Street bicycle lanes	Market Street (18th St to W MacArthur Blvd)	Construction of Class II bicycle lanes	1.0 miles
	Project 7-SPR1C	Market Street arterial bicycle route	Market St/61st St/Occidental St (Adeline St to Berkeley border)	Construction of Class IIIA arterial bicycle route	0.3 miles
Port of Oakland	Project 1BE	Airport Drive bicycle path	Connects Airport Drive to a previously-constructed path that runs along the southern edge of Metropolitan Links Golf Course to the site of the Oyster Bay Slough Bridge. The bridge, which is currently under construction by the City of San Leandro, will connect the paths in the vicinity of the airport to those in the Oyster Bay Regional Shoreline.	Completion of bicycle path. This new connection will provide a significant improvement to waterfront access over the existing on-street routes via Doolittle Dr and Williams St in San Leandro.	240 feet
Union City	Project 13, Segment JG1 and Project 36, Segments AL and AM	Alvarado-Niles Road/Decoto Road bicycle lanes through intersection	Alvarado-Niles Road/Decoto Road intersection	As part of the Alvarado-Niles Road/Decoto Road intersection widening project, extension of dedicated bike lanes through the city's busiest intersection in all 4 directions providing bike lanes throughout the length of Alvarado-Niles Road.	NA

**APPENDIX C-3 BICYCLE COUNTS**

(3:00-6:00 p.m.)

	Jurisdiction	Location	2002	2004	2006	2008	% Diff 2006-08
1	Alameda	Atlantic Avenue/Webster Street	36	56	60	76	27%
2	Berkeley	Milvia Street/Hearst Avenue	405	392	356	438	23%
3	Emeryville	San Pablo Avenue/40th Street	142	168	173	196	13%
4	Fremont	Paseo Padre Pkwy/Mowry Ave.	60	52	22	16	-27%
5	Hayward*	Mission Blvd./Jefferson Street	11	23	39	25	-36%
6	Livermore	East Street/Vasco Road	86	109	106	93	-12%
7	Newark	Thornton Avenue/Willow Street	5	12	11	13	18%
8	Oakland	Telegraph Avenue/27th St	136	79	144	222	54%
9	Piedmont	Grand Avenue/Oakland Ave.	30	21	41	46	12%
10	Pleasanton	Hopyard Road/Stoneridge Dr.	32	19	5	32	540%
11	Alameda County	Hesperian/Lewelling Blvd	27	25	36	68	89%
12	Alameda County	Redwood Road/Grove Way	26	--	--		
12	Alameda County*	Redwood Road/Castro Valley Blvd.	--	26	36	45	17%
13	Berkeley	San Pablo/Virginia St.	69				
14	Dublin	Dublin Blvd/Scarlett Dr./Iron Horse Trail	17				
15	San Leandro	Bancroft Ave./Estudillo Ave.	20				

Source: Alameda County CMA, LOS Monitoring Report, 2002-2008 (count locations #1-12); Metropolitan Transportation Commission, 2002 (count locations #13-15).

Note: * indicates percentage difference calculated for 2 hours.


APPENDIX C-4 BICYCLE COLLISIONS WITH MOTOR VEHICLES

Jurisdiction	Injuries and Fatalities				% Change	
	2004	2005	2006	2007	2008	2004-08
Alameda	32	26	28	16	33	3%
Albany	4	11	4	6	7	75%
Berkeley	132	119	147	134	180	36%
Dublin	5	7	9	4	7	40%
Emeryville	4	1	2	5	8	100%
Fremont	48	41	43	46	69	44%
Hayward	39	44	34	34	45	15%
Livermore	29	29	33	31	36	24%
Newark	9	12	14	5	13	44%
Oakland	118	141	123	166	166	41%
Piedmont	0	2	2	3	3	300%
Pleasanton	23	17	28	24	30	30%
San Leandro	23	8	18	6	20	-13%
Union City	9	6	18	12	9	0%
Unincorporated County	33	48	29	42	47	42%
Injury Total	506	510	528	530	672	33%
Fatality Total	2	2	4	4	1	-100%
County Total	508	512	532	534	673	32%

Source: California Highway Patrol, 2008; Metropolitan Transportation Commission State of the System Reports, 2004 to 2007.





APPENDIX D

WALKING

D-1 Pedestrian Counts

D-3

D-2 Pedestrian Collisions with Motor Vehicles

D-3





APPENDIX D-1 PEDESTRIAN COUNTS

(4:00-6:00 p.m.)

Intersection	Jurisdiction	2002	2009	% CHANGE 2002-09
San Pablo Avenue/ Virginia Street	Berkeley	103	101	-2%
Dublin Boulevard/ Iron Horse Trail	Dublin	25	30	20%
Bancroft/ Estudillo Avenues	San Leandro	118	130	10%

APPENDIX D-2 PEDESTRIAN COLLISIONS WITH MOTOR VEHICLES

(fatalities and injuries)

Jurisdiction	2004	2005	2006	2007	2008	% CHANGE 2004-08
Alameda	31	30	30	32	36	16%
Albany	9	8	6	10	14	56%
Berkeley	105	98	98	93	91	-13%
Dublin	8	4	6	7	6	-25%
Emeryville	6	9	6	6	11	83%
Fremont	41	48	45	43	50	22%
Hayward	64	46	50	57	78	22%
Livermore	12	12	13	9	21	75%
Newark	3	11	9	6	8	167%
Oakland	290	293	284	254	289	<-1%
Piedmont	1	2	1	0	2	100%
Pleasanton	12	7	12	13	8	-33%
San Leandro	30	38	27	36	22	-27%
Union City	9	9	15	12	13	44%
Unincorporated County	36	35	39	31	33	-8%
Injury Total	628	650	621	591	649	3%
Fatality Total	29	23	20	18	33	14%
County Total	657	673	641	609	682	4%

Source: California Highway Patrol, 2008; and MTC State of the System Reports, 2004 to 2007.

